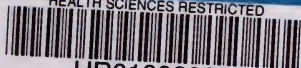


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# THE JOURNAL OF CUTANEOUS DISEASES

INCLUDING SYPHILIS

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# Index to Volume XXXV

## LIST OF ORIGINAL COMMUNICATIONS ARRANGED BY NAMES OF AUTHORS

	PAGE
Alderson, H. E.—Cutaneous Metastases in Hodgkin's Disease.....	481
Auner, J. F.—Lichen Planus Linearis Unilateralis.....	166
Blaisdell, J. Harper.—Sporotrichosis. A Clinical and Histological Report of the First Case to be Published in New England.....	452
Chipman, Ernest Dwight.—Focal Infection in the Etiology of Skin Disease	646
Culver, George D.—See Montgomery, Douglass W.	
Davidson, Anstruther.—The Relation of Fruit Ingestion to Cutaneous Diseases .....	665
Elliott, Joseph A.—Elephantiasis Nostras; Review of the Subject with Report of a Case.....	17
Elliott, Joseph A.—See Wile, Udo J. ....	594
Fordyce, John A.—The Teaching of Syphilis.....	717
Fox, Howard.—The Annular Macular Syphilid or So-Called Neuro- syphilide .....	215
———The Coolidge Tube in the Treatment of Non-Malignant Diseases of the Skin .....	599
Fraser, J. Frank.—The Pathology of Mycosis Fungoides.....	793
Hartzell, M. B.—Late Urticaria Pigmentosa, or Urticaria Pigmentosa Beginning After Puberty .....	756
Hazen, H. H.—The Electric Cautery in Cutaneous Surgery.....	591
Heimann, Walter J.—Histopathology .....	28
———Histopathology; Eczema and Dermatitis.....	362
———The Teaching of Syphilis in Undergraduate Schools.....	132
King, W. W.—Some Observations upon the Skin Diseases of Porto Rico	459
Knowles, Frank Crozer.—Acnitis in the Negro.....	61
Kolmer, John A.—See Schamberg, Jay F.	
Lain, Everett S.—Herpes Zoster, a Focal Infection.....	486
Lane, John E.—Perleche. A Review of the Literature with a Bibliography and Some Observations on the Disease as Seen in New Haven	433

	PAGE
MacKee, George M.—Hypertrichosis and the X-Ray.....	171
——— and Rosen, I.—Erythrodermie Congenitale Ichthyosiforme. Report of Cases with a Discussion of the Clinical and Histological Features and a Review of the Literature.....	511
——— ——— Erythrodermie Congenitale Ichthyosiforme (Continued).....	235
——— ——— Erythrodermie Congenitale Ichthyosiforme (Continued).....	343
McDonagh, J. E. R.—A Sketch of My Research on Syphilis.....	222
McDonnell, R. A.—The Treatment of Acne .....	90
McEwen, Ernest L.—The Problem of Hypertrichosis .....	829
McGarry, R. A.—A Unique Case of Favus .....	253
Montgomery, Douglass W.—A Pigmented Stripe in the Thumb Nail.....	99
——— Phenol .....	157
——— and Culver, George D.—Granuloma Pyogenicum .....	338
——— Glycerin .....	662
——— The Preoperative Reduction of Epithelioma by Roentgen Rays or Radium .....	837
Mook, W. H.—Erythema Figuratum Perstans .....	635
Olson, George Manghill.—Sclerodactylia with Calcareous Concretions; with Report of a Case .....	96
Pusey, William Allen.—Fissure of the Lip: a Device for Its Treatment....	16
——— A Case of Multiple Benign Tumor-Like New Growths of Schweninger and Buzzi .....	582
Raiziss, G. W.—See Schamberg, J. F.	
Ravogli, A.—On a Rare Form of Scleroderma.....	1
——— Presidential Address. American Dermatological Association, Twenty-Fourth Annual Meeting, Held at Cincinnati, Ohio, May 24-26, 1917 .....	567
Rosen, I.—See Wise, Fred.	
——— See MacKee, George M.	
Schamberg, J. F., and Raiziss, G. W.—A Study of the Nitrogen Metabolism of Two Cases of Eczema .....	136
——— The Salvarsan Patents and the Powers of Congress (Editorial)....	283
——— Kolmer, John A., and Raiziss, George W.—Experimental and Clinical Studies of the Toxicity of Dioxydiamino-Arsenobenzol Dichlorhydrate .....	286
Shelmire, J. B.—An Unusual Variety of Vitiligo (Leucoderma Acquisatum Centrifugum) .....	163
Simpson, C. Augustus.—Practical Points in Roentgen Therapeutics.....	231
——— Dermatitis Factitia and Neurotic Gangrene .....	493



Smith, C. Morton.—Teaching of Syphilis in School and Hospital.....	726
Stokes, John H.—A Clinico-Pathologic Study of an Unusual Cutaneous Neoplasm Combining Nevus Syringadenomatosus Papilliferus and a Granuloma .....	411
Strickler, Albert.—The "Gel" Test .....	426
Sutton, Richard L.—The Histopathology of Hyperidrosis Circumscripta...	154
—— The Classification of the Urticarias .....	749
Trimble, William B.—The Follicular Type of Eczema Seborrheicum.....	11
Weiss, Richard S.—A Case of Epidermolysis Bullosa, Showing Loss of Elastic Tissue in the Apparently Normal Skin.....	26
Wile, Udo J., and Elliott, Joseph A.—Further Studies on the Mode of Absorption of Mercury in the Inunction Treatment of Syphilis	594
Wise, Fred.—Practical Observations on Lupus Erythematosus and Its Management .....	500
—— Lymphadenosis Cutis Universalis, Associated with Generalized Erythrodermia and Atrophy of the Skin.....	669
—— and Rosen, I.—Further Observations on So-Called White Spot Disease or Sclerodermia Circumscripta.....	66

ALPHABETICAL LIST OF AUTHORS WHOSE WORKS ARE  
PUBLISHED OR ANALYZED IN THIS VOLUME

- Abramowitz, 630.  
 Adamson, 618.  
 Akatsu, 622, 623.  
 Alderson, H. E., 481.  
 Arango, 631.  
 Arion, 389.  
 Armstrong, 114, 115, 280, 281.  
 Atkins, 788.  
 Auner, 166.  
 Axmann, 125.  
 Babcock, 620.  
 Balzer, 388.  
 Barach, 399.  
 Bardach, 123.  
 Barges, 126.  
 Barker, 410.  
 Bechet, 264, 271, 773.  
 Bessau, 193.  
 Bittorf, 120.  
 Blaisdell, 400, 452, 459, 787.  
 Bogrov, 127, 128.  
 Boreen, 116, 117.  
 Bovee, 400.  
 Bowen, 399.  
 Bralez, 389.  
 Brocq, 125, 390, 782.  
 Bronfenbrenner, 617.  
 Bruce, 781.  
 Budde, 124.  
 Bulkley, 620.  
 Bunch, 618, 619, 782.  
 Burns, 787.  
 Bustermann, 396.  
 Butler, 115, 116.  
 Butte, 391.  
 Carman, 409.  
 Castellani, 200.  
 Caulk, 408.  
 Cervera, 633.  
 Chalmers, 406.  
 Chapin, 392.  
 Chase, 133.  
 Chernogubov, 390.  
 Chipman, 646.  
 Chiryev, 392.  
 Clark, 542, 543, 606, 607, 706, 708, 710.  
 Collins, 408.  
 Cook, 129.  
 Corbett, 209, 618, 781.  
 Cosiva, 126.  
 Couton, 790.  
 Craig, 410.  
 Crary, 208.  
 Cregor, 789.  
 Cripps, 780.  
 Culver, 338.  
 Cunningham, 132, 789.  
 Davidson, 665.  
 De Buys, 409.  
 De Kruij, 394.  
 Donnally, 203.  
 Dore, 782.  
 Dubreuilh, 126.  
 Eddowes, 619.  
 Elliott, 17, 594.  
 Ewing, W. B., 791.  
 Fordyce, 39, 186, 187, 196, 541, 543, 545,  
     546, 547, 605, 705, 717, 786.  
 Forno, 126.  
 Foster, B., 791.  
 Fox, G. H., 256.  
 Fox, H., 37, 38, 41, 51, 56, 57, 179, 180,  
     184, 191, 215, 258, 263, 264, 266, 273,  
     547, 553, 559, 562, 599, 608, 617, 705,  
     707, 708, 715, 772, 778.  
 Fox, T. C., 213.  
 Fraenkel, 623, 624.  
 Fraser, 793.  
 Friboes, 623.  
 Gallego, 628.  
 Gardner, 790.  
 Garrison, 199, 622, 784.  
 Gaskill, 105, 106, 387.  
 Gaucher, 389, 783.  
 Gennerich, 122.  
 Gerbay, 783.  
 Geyser, 54.  
 Gilmour, 57, 265.  
 Gley, 630.  
 Goldberger, 211, 393.  
 Gordon, 621.  
 Gottheil, 57, 265, 267, 269, 270, 272, 621,  
     626.  
 Gradwohl, 207, 617.  
 Graham, 619.  
 Griditzer, 408.  
 Grinchar, 128.  
 Halber, 394.  
 Hanawa, 195, 391.  
 Harris, 41, 45, 47, 50, 108, 109, 110, 112,  
     113, 114, 280, 408, 611, 613, 767, 769,  
     840, 842, 844, 847, 849, 850, 851, 852,  
     855, 857.  
 Hartzell, 104, 385, 386, 756.  
 Haslund, 616.  
 Hayne, 209.  
 Hazen, 282, 410, 591, 790.  
 Heidingsfeld, 404.  
 Heimann, 28, 37, 40, 131, 185, 362, 403,  
     545, 557, 605, 714, 732.  
 Hirschler, 105.

- Hopkins, 397.  
Hunt, 211, 620.
- Immerman, 785.
- Jackson, Geo. T., 633.  
Jamieson, W. A., 214.  
Jones, 133.  
Jost, 207.
- Kall, 120.  
Kealty, 129.  
Kiely, 402.  
Kingsbury, 35, 37, 547.  
Klein, 118.  
Knowles, 61.  
Kolmer, 286, 407, 784, 785.  
Koplik, 202.  
Kutznitzky, 120.
- Lain, 486.  
Lamb, 408.  
Lane, 191, 399, 433, 550, 551, 552.  
Lapowski, 554, 555, 556, 557, 558, 559.  
Lautman, 208.  
Lee, 199.  
Levin, 129, 196, 205, 206, 400, 627.  
Levy, 402.  
Levy-Bing, 783.  
Lewis, 787.  
Lieberthal, 771.  
Little, 208, 209, 210, 619, 782.  
Login, 125.  
Loughlin, 405, 781.  
Lowry, 788.
- MacKee, 37, 39, 40, 55, 171, 185, 186, 189,  
190, 191, 235, 261, 265, 268, 273, 343,  
511, 542, 543, 545, 546, 547, 549, 554,  
556, 557, 558, 560, 563, 565, 705, 712,  
777.  
Mackey, 844, 845, 850, 856, 857.  
MacLeod, 618.  
MacNeal, 199, 622.  
Marsh, 790.  
Martyn, 406.  
Massey, 200.  
Massia, 782.  
Matsunami, 785.  
Matthes, 119.  
McBurney, 397.  
McClure, 196.  
McCoy, 398.  
McDonagh, 59, 209, 210, 222, 392, 619.  
McDonnell, 90.  
McEwen, 107, 109, 277, 829, 847, 857, 853.  
McGarry, 253.  
McNeal, 784.  
McNeil, 409.  
Melchior, 625.  
Mendelson, 620.  
Mescherski, 127.  
Miller, 199.  
Minor, 132.  
Minot, 199.  
Molesworth, 781.
- Montgomery, 99, 157, 338, 410, 620, 662,  
785, 837.  
Montpellier, 783.  
Mook, 635.  
Moore, 609.  
Mortimer, 618.  
Mount, 206.
- Nagai, 391.  
Nakagawa, 196.  
Nanta, 126.  
Neisser, 124.  
Nesbitt, 395.  
Nicholas, 782.  
Noguchi, 616, 622.  
Nurzum, 394.
- Ochs, 56, 57, 776.  
Okamura, 195.  
Oliver, 781.  
Olson, 96, 114, 281, 566.  
Ormsby, 42, 43, 48, 49, 50, 51, 608, 611,  
612, 613, 840, 841, 843, 844, 846, 847,  
854, 855, 856.  
Ottenberg, 621.  
Oulmann, 53, 55, 549.
- Pardee, 608.  
Parounagian, 548, 777.  
Paul, 627.  
Pepper, 199.  
Perdue, 404, 788.  
Pernet, 60, 209, 619, 782.  
Peterson, 410.  
Peyri, 628.  
Pfahler, 102, 104.  
Philip, 623, 787.  
Pinard, 390.  
Pisko, 130, 260, 559, 562, 778.  
Place, 205.  
Poehlmann, 121.  
Pollitzer, 556.  
Portillo, 628, 783.  
Potter, 179, 187, 396, 787.  
Potthoff, 610, 854.  
Powiton, 123.  
Pringle, 209.  
Proesser, 616.  
Pusey, 16, 48, 409, 582, 767, 841, 844.
- Queyrat, 390.  
Quimby, J. A., 132.  
Quimby, W. A., 132.  
Quinn, 47, 847, 849, 850, 854.
- Rabinoff, 203.  
Raiziss, 136, 286, 407.  
Ravaut, 388.  
Ravogli, 1.  
Reasoner, 618.  
Reilly, 784.  
Reiman, 401.  
Rhoads, 617.  
Rosanoff, 194.  
Rosen, 55, 66, 235, 343, 511, 558, 560, 562,  
772, 778.

- Rosenberg, 128.  
 Ross, 199.  
 Rothwell, 189, 556.  
 Rowe, 198.  
 Ruiz-Arnau, 134.  
 Ruxton, 781.  
  
 Sabouraud, 389.  
 Sainz de Aja, 126.  
 Saison, 131.  
 Samuel, 619.  
 Satenstein, 561.  
 Satterthwaite, 626.  
 Schamberg, 104, 136, 283, 286, 386, 387, 407.  
 Scheer, 403, 558.  
 Schlesinger, 617.  
 Schmitt, 624.  
 Schwartz, 544.  
 Schweitzer, 624.  
 Seheult, 200.  
 Seil, 616.  
 Seneear, 198, 278, 768, 842.  
 Sequeira, 782.  
 Seyffarth, 123.  
 Shaffner, 44, 111, 610, 770, 848, 852.  
 Shaw, 404, 405, 781.  
 Shelmire, 163.  
 Sherwell, 541.  
 Sibley, 210, 619, 782.  
 Sicilia, 127.  
 Siler, 199, 622, 784.  
 Simpson, 493.  
 Simpson, A., 231.  
 Sinclair, 206, 789.  
 Slemons, 396.  
 Slominski, 107.  
 Smith, 404, 728.  
 Smithies, 409.  
 Somerfeld, 626.  
 Sommer, 122.  
 Sommerfeld, 120.  
 Spiegel, 556.  
 Spindler, 128.  
 Stebbing, 618.  
 Stein, 134.  
 Steiner, 621.  
 Stelwagon, 103, 105, 106, 632.  
 Stillians, 46, 49, 84, 110, 613, 614, 616, 766, 768, 769, 840, 844, 847, 851, 858.  
 Stokes, 44, 411.  
 Stone, 134, 200.  
 Stowers, 618.  
 Strauss, 106, 625.  
 Strickland, 789.  
  
 Strickler, 106, 129, 130, 426.  
 Stuempke, 121.  
 Sutton, 58, 154, 401, 749.  
 Sweitzer, 117, 281.  
 Swift, 197, 397.  
  
 Thibierge, 126.  
 Thomas, 621.  
 Thompson, 410.  
 Tousey, 620.  
 Toussaint, 389.  
 Towle, 201.  
 Tracy, 398.  
 Trimble, 11, 36, 179, 188, 255, 257, 547, 549, 605.  
  
 Ubel, 130.  
 Uruena, 633.  
  
 Veeder, 198.  
 Vignolo-Lutati, 629.  
  
 Wago, 785.  
 Walker, 394.  
 Wallhauser, 560.  
 Warthin, 197.  
 Waugh, 849.  
 Weber, 616.  
 Wechselmann, 121, 625, 849.  
 Weidler, 621.  
 Weiss, 26, 269, 272, 273, 561, 564, 774, 776, 778.  
 Wender, 208.  
 White, 398, 400, 410.  
 Whitehouse, 36, 187, 263, 711.  
 Whitfield, 406, 781.  
 Wile, 198, 394, 408, 594.  
 Williams, 40, 544, 790.  
 Williamson, 402.  
 Wise, 37, 40, 66, 129, 184, 190, 191, 268, 273, 405, 500, 549, 554, 556, 563, 565, 607, 669, 715, 777.  
 Wolfsohn, 396.  
 Wood, 205, 395, 396.  
 Wooley, 617.  
 Wright, 118.  
  
 Yarbrough, 133.  
 Yawger, 130.  
  
 Zeisler, 47, 108, 110, 274.  
 Zeisler, E. P., 610, 849.  
 Zelenev, 391.  
 Zigler, 208.  
 Zinsser, 397.



## ALPHABETICAL INDEX OF SUBJECTS

### A

#### Acid.

carbolic, see phenol.

#### Acne.

due to tar, McEwen (S. Tr.), 853.  
Marsh (Abs.): 790.  
rosacea, peculiar, Pusey (S. Tr.), 48.  
treatment of, McDonnell (O.), 90.  
varioloriformis, Potter (S. Tr.), 187.

#### Acnitis.

case of, MacKee and Wise (S. Tr.), 191.  
in an Egyptian soldier, Chalmers and Martyn (Abs.), 406.  
in the negro, Knowles (O.), 61.

#### Acrodermatitis.

chronica atrophicans, case of, MacKee and Rosen, (S. Tr.), 55.  
chronica atrophicans, case of, MacKee for Fordyce (S. Tr.), 39.  
chronica atrophicans, case of, Rosen (S. Tr.), 562.

#### Acrodermatoses.

recurrent, of warm countries, Ruiz-Arnau (Abs.), 134.

#### Actinomycosis.

Zeisler (S. Tr.), 274.

#### Addison's

disease, case of, Mendelson (Abs.), 620.  
disease (?), case of, Slominski (S. Tr.), 107.

#### Adenoma sebaceum, Ormsby (S. Tr.), 48.

#### Adult, urticaria pigmentosa in an, Pusey (S. Tr.), 48.

#### Albumen and globulin content of human blood serum, Rowe (Abs.), 198.

#### Alopecia.

areata, H. Fox (S. Tr.), 707.  
areata associated with lupus erythematosus, Shaffner (S. Tr.), 610.  
areata following gunshot wounds, Poehlmann (Abs.), 121.  
areata.  
  ringworm of the scalp and. appearing simultaneously in the same location, Lane (Abs.), 399.  
areata, treatment of, by crayon of chrysarobin, Sicilia (Abs.), 127.  
cicatrizzata (?), Wise for Fordyce (S. Tr.), 715.  
cicatrizzata (pseudo-pelade) MacKee for Fordyce (S. Tr.), 545.

#### Alopecia.

congenital.  
  report of case of, Cunningham, Blaisdell and White, (Abs.), 400.  
congenital, and deformed teeth, koilonychia, Ormsby (S. Tr.), 856.  
universalis, Schwartz, (S. Tr.), 544.

#### American Dermatological Association, clinical session of, held at Freedmen's Hospital, Washington, May 7, 1916. Cases shown at the clinic on visceral syphilis, 101.

#### Anaphylactic.

food reactions in skin diseases, Strickler (Abs.), 129.

#### Anemia.

pernicious, case of, in a syphilitic, treated with salvarsan, Lowry (Abs.), 788.

#### Aneurysms.

aortic, series of ruptured, Wooley (Abs.), 617.

#### Angiokeratoma.

Harris (S. Tr.), 849.  
Senear (S. Tr.), 842.

#### Angioma.

Mackey (S. Tr.), 856.  
Mackey (S. Tr.), 857.  
serpiginosum, Butler (S. Tr.), 116.  
serpiginosum, Stillians (S. Tr.), 847.  
spontaneous involution of an, Bechet (S. Tr.), 773.

#### Angiomas.

and other new growths, destruction of, by injection of quinin and urea hydrochlorid, Babcock (Abs.), 620.

#### Angioneurotic edema, see edema.

#### Antigens.

cholesterinized, in non-syphilitic sera, results with, McClure and Lott, (Abs.), 196.

#### Appendicitis.

five cases of, among eight children, in a family of heredo-syphilitics, Gaucher (Abs.), 783.

#### Arsenic.

mercurial and iodid compounds, drug-fastness of spirochetes to, in vito, Akatsu and Noguchi (Abs.), 622.

#### Arsenical.

keratoses or quicksilver exanthem (?), Philip (Abs.), 623.

**Arsenical.**

therapy of syphilis, six years of, Peyri (Abs.), 628.

**Arsenobenzol.**

in place of salvarsan, Chapin (Abs.), 392.

(see also salvarsan.)

**Asphyxia.**

reticularis, Corbett (Abs.), 209.

**Atrophy.**

of the skin, lymphadenosis cutis universalis, associated with generalized erythrodermia and, Wise (O.), 669.

with chronic dermatitis of the hands, Stillians (S. Tr.), 768.

**B****Bazin's**

disease, MacKee for Fordyce, (S. Tr.), 546.

(see also erythema induratum.)

**Biskra.**

button, furunculosis orientalis, Geyser (S. Tr.), 54.

**Blastomycetic.**

dermatitis, Harris (S. Tr.), 108.

**Blastomycoses.**

Gilmour (S. Tr.), 265.

**Blastomycosis.**

Harris (S. Tr.), 844.

Harris and Stillians (S. Tr.), 844.

Hartzell (S. Tr.), 385.

in Central Africa, Massey (Abs.), 200.

Mackey (S. Tr.), 844.

Mackey (S. Tr.), 845.

of elbow, Ormsby (S. Tr.), 844.

of the nose, Pusey (S. Tr.), 844.

Ormsby (S. Tr.), 50.

Ormsby (S. Tr.), 843.

Oulmann (S. Tr.), 53.

Pusey (S. Tr.), 844.

sycosis vulgaris, onychia and, Hartzell (S. Tr.), 385.

**Book reviews.**

A treatise on diseases of the skin for advanced students and practitioners, Stelwagon, 632.

Cold in dermatology, liquid air, CO<sub>2</sub> snow, Cervera, 633.

Diseases of the skin, Sutton, 58.

Graunloma venereo, Arango, 631.

Links in a chain of research on syphilis (oxidation and reduction), McDonagh, 59.

Skin cancer, Hazen, 282.

The health of the skin, Pernet, 50.

The internal secretions, Gley, 630.

Toxin therapy and vaccine therapy of leprosy in Mexico, Uruena, 633.

**Bromoderma.**

with vesicular lesions, MacKee and Wise (S. Tr.), 565.

(see dermatitis medicamentosa.)

**Bromid.**

eruption, a case of nodose, in a breast fed infant, Molesworth and Whitfield (Abs.), 781.

(see dermatitis medicamentosa.)

**Buboes**, venereal, treatment of, with roentgen rays, Kall (Abs.), 120.

**C****Calculus.**

salivary, Lane (S. Tr.), 550.

**Cancer.**

of skin, Hazen (Rev.) 282.

prevention and treatment of, based on Roentgen ray findings of dental infection and use of autogenous vaccines, Tousey (Abs.), 620.

problem, the real, Bulkley (Abs.), 620.

review of the history of chemical therapy in, Stone (Abs.), 134.

**Canities.**

and vitiligo, MacKee and Heimann (S. Tr.), 557.

**Carbolic acid**, see phenol.**Carbon dioxide snow.**

and Uviol lamp treatment in connection with Roentgen and radium exposures, Axmann (Abs.), 125.

as a sensitizer in radium therapy, Sommer (Abs.), 122.

**Carbuncle.**

of neck cured by staphylococcus vaccine, Cosiva (Abs.), 126.

**Carcinoma.**

of the back of the hand on the scar of an old gunshot wound, Melchior (Abs.), 625.

Quinn (S. Tr.), 847.

**Cautery.**

electric, in cutaneous surgery, Hazen (O.), 591.

**Cerebrospinal.**

syphilis, intra-arterial infusion of neosalvarsan for the treatment of, Sinclair (Abs.), 789.

**Concretions.**

calcareous, sclerodactylia with, with report of a case, Olson (O.), 96.

**Condylomata.**

Gaskill (S. Tr.), 387.

**Congenital.**

lues, Ormsby (S. Tr.), 49.

(see syphilis)

syphilis, prognosis and modern treatment, Wise (Abs.), 129.

**Coolidge.**

tube, in the treatment of nonmalignant diseases of the skin, H. Fox (O.), 599.

**Correspondence.**

letter from E. W. Abramowitz on Phenol, 630.

**Chancre.**

extragenital, an unusual case of syphilitic infection, Rosenberg (Abs.), 128.

extragenital, giant, Aja and Forno (Abs.), 126.

lymphoid and plasma cells of the syphilitic, Nanta (Abs.), 126.

of the tonsil, Parounagian (S. Tr.), 548.

**Cheiopompholyx.**

Dare (Abs.), 782.

**Chemical.**

therapy in cancer, review of history of the, Stone (Abs.), 134.

**Chemotherapy.**

McDonagh (Abs.), 209.

rationale and practice of, McDonagh (Abs.), 392.

**Chicago Dermatological Society.**

Jan. 18, 1916, 41.

Apr. 18, 1916, 107.

May 16, 1916, 111.

Oct. 17, 1916, 274.

Nov. 21, 1916, 608.

Dec. 19, 1916, 766.

Jan. 16, 1917, 840.

**Chorea of Sydenham.**

relationship of, to syphilis, Koplik (Abs.), 202.

**Chrysarobin.**

crayon, treatment of alopecia areata by, Sicilia (Abs.), 127.

**Cyanosis.**

familial, Harris (S. Tr.), 41.

**D****Dactylitis.**

papulo-necrotic tuberculid and, MacKee and Wise (S. Tr.), 565.

**Darier's disease** (see keratosis follicularis).**Deafness.**

and tinnitus aurium, syphilitic, (2 cases), Olson (S. Tr.), 117.

**Dental.**

infection and use of autogenous vaccines, prevention and treatment of cancer based on Roentgen ray findings of, Tousey (Abs.), 620.

stigmata, heredosyphilitic, Stein (Abs.), 134.

**Depigmentation.**

dermatitis with pigmentation and, Stillians (S. Tr.), 769.

**Dermatitis.**

blastomycetic, Harris (S. Tr.), 108.

chronic, of the hands, with atrophy, Stillians (S. Tr.), 768.

cupuliformis, note on, Castellani (Abs.), 200.

due to secretion of a beetle in British East Africa, Ross (Abs.), 199.

due to war injuries, Butte (Abs.), 391.

eczema and (histopathology), Heilmann (O.), 362.

eczematoid, following trauma, from abuse of antiseptics, Sabouraud (Abs.), 389.

exfoliativa, following psoriasis, MacKee and Wise (S. Tr.), 268.

exfoliativa, Wright (S. Tr.), 118.

exfoliative, of hands and feet, Pusey (S. Tr.), 767.

factitia and neurotic gangrene, Simpson (O.), 493.

factitia, Stillians (S. Tr.), 614.

herpetiformis, Boreen (S. Tr.), 116.

(see also Dühring's disease)

herpetiformis, Lane (S. Tr.), 552.

herpetiformis, Little (Abs.), 782.

herpetiformis (?), MacKee and Wise (S. Tr.), 560.

herpetiformis, McEwen (S. Tr.), 857.

herpetiformis, psoriasis, Harris (S. Tr.), 857.

herpetiformis, Quinn (S. Tr.), 849.

herpetiformis with vegetations, McEwen (S. Tr.), 109.

infectious eczematoid, Rosen (S. Tr.), 778.

pruritic, Whitfield (Abs.), 406.

psoriasisiformis nodularis and parapsoriasis, Hannava and Nagai (Abs.), 391.

seborrheic, Cunningham (Abs.), 132.

vegetans, due to B. pyocyaneus, Klein (S. Tr.), 118.

venenata.

resulting from Haag's eczema cure, Heidingsfeld (Abs.), 404.

with pigmentation and depigmentation, Stillians (S. Tr.), 769.

**Dermatological.**

aspects of chronic intestinal stasis, Cunningham (Abs.), 789.

**Dermatoleia.**

noxialis (Brown), Armstrong (S. Tr.), 114.

**Dermatoses.**

due to war injuries, Butte (Abs.), 391.

**Dermography.**

anemic; connection between the systolic blood pressure and reflex vasoconstriction of the skin, Tracy (Abs.), 398.

**Diagnosis.**

- case for, Bechet (S. Tr.), 264, 271.
- case for (eczema fissum ?), Sherwell (S. Tr.), 541.
- case for, Clark (S. Tr.), 543.
- case for, Harris (S. Tr.), 47.
- case for, Harris (S. Tr.), 50.
- case for, Harris (S. Tr.), 110.
- case for, Harris (S. Tr.), 112.
- case for, Harris (S. Tr.), 113.
- case for, Harris (S. Tr.), 611.
- case for, Harris (S. Tr.), 613.
- case for, Harris (S. Tr.), 767.
- case for, Harris (S. Tr.), 851.
- case for, Hartzell (S. Tr.), 104.
- case for, Lieberthal (S. Tr.), 771.
- case for (lupus erythematosus ?) MacKee (S. Tr.), 261.
- case for (pyogenic onychia ?) MacKee (S. Tr.), 261.
- case for, McEwen (S. Tr.), 847.
- case for (nodules on scalp), Clark (S. Tr.), 542.
- case for, Ormsby (S. Tr.), 42.
- case for, Ormsby (S. Tr.), 611.
- case for, Ormsby (S. Tr.), 840.
- case for, Pardee (S. Tr.), 276.
- case for, Rothwell (S. Tr.), 189.
- case for (sarcoid or mycosis fungoides), H. Fox (S. Tr.), 180.
- case for, Shaffner (S. Tr.), 770.
- case for, Shaffner (S. Tr.), 848.
- case for, Schamberg (S. Tr.), 104.
- case for, Schamberg (S. Tr.), 386.
- case for, Stebbing (Abs.), 618.
- case for, Stelwagon (S. Tr.), 103.
- case for, Stelwagon and Gaskill (S. Tr.), 106.
- case for, Stillians (S. Tr.), 46.
- case for, Stillians (S. Tr.), 613.
- case for, Stillians (S. Tr.), 766.
- case for, Trimble (S. Tr.), 547.
- case for, Trimble (S. Tr.), 255.
- case for, Wallhauser (S. Tr.), 560.
- case for, E. P. Zeisler (S. Tr.), 610.

**Diet.**

- relation of, to skin diseases, Strickler (Abs.), 130.

**Dohle.**

- leucocytic inclusions in scarlet fever, diphtheria, angina and serum exanthems, diagnostic value of, Rosanoff (Abs.), 194.

**Duhring's.**

- disease, Lane (S. Tr.), 552.
- see also dermatitis herpetiformis.

**Dysidrosis.**

- Weiss (S. Tr.), 778.

**E****Eczema.**

- chronic, erythematous of chin and neck, Weiss (S. Tr.), 272.

**Eczema.**

- chronic, or lupus erythematosus ? diagnosis of chronic eczema as a result of X-ray therapy, Weiss (S. Tr.), 564.
- dermatitis and (histopathology), Heimann (O.), 362.
- dietetics of, Towle (Abs.), 201.
- fissum (?) case for diagnosis, Sherwell (S. Tr.), 541.
- in children, Crary (Abs.), 208.
- nitrogen metabolism in, a study of two cases, Schamberg and Raiziss (O.), 136.
- seborrheic.
- Kingsbury (S. Tr.), 35.
- seborrheicum, the follicular type of, Trimble (O.), 11.
- treatment of, Levin (Abs.), 627.
- vesicular, H. Fox (S. Tr.), 547.

**Elastic.**

- tissue, loss of, in the apparently normal skin, case of epidermolysis bullosa, showing, Weiss (O.), 26.

**Elephantiasis.**

- H. Fox (S. Tr.), 41.
- nostras; review of the subject with report of a case, Elliott (O.), 17.

**Edema.**

- angioneurotic, metabolism studies in, Miller and Pepper (Abs.), 199.
- luetic, of the lip, Harris (S. Tr.), 110.

**Editorial.**

- salvarsan patents and the powers of Congress, Schamberg, 283.

**Epidermophytosis.**

- of the hand, Sweitzer (S. Tr.), 117.

**Epilepsy.**

- syphilitic, Levy-Bing and Gerbay (Abs.), 783.

**Epithelioma.**

- adenoides cysticum (Brooke), a case of, Paul (Abs.), 627.
- and radiodermatitis, followed by plastic operation, Lane (S. Tr.), 551.
- benign, cystic, Harris (S. Tr.), 851.
- cutaneous, and keratosis, use of radium in the treatment of, Burns and Blaisdell (Abs.), 787.
- lupus vulgaris or lupus erythematosus with, H. Fox (S. Tr.), 711.
- of the hand, following traumatism, Bunch (Abs.), 619.
- of the face, Pringle (Abs.), 209.
- of the lip, H. Fox (S. Tr.), 51.
- of the lower lip in a woman, Wise (S. Tr.), 560.
- of the lower lip, Weiss (S. Tr.), 561.
- of the nose, H. Fox and Ochs (S. Tr.), 56.



**Epithelioma.**

- of the nose and inner canthus of the eye, Trimble (S. Tr.), 549.
- of the tongue, Williams (S. Tr.), 40.
- serpiginosum, Oulmann (S. Tr.), 55.
- the preoperative reduction of, by Roentgen rays or radium, Montgomery (O.), 837.
- tricho, of eyelids, Harris (S. Tr.), 852.

**Erratum.**

- article on Sclerodactylia with calcareous concretions, Olson, 566.
- twenty-fourth annual meeting should read forty-first annual meeting, 716.

**Eruption.**

- toxic, Senear (S. Tr.), 278.

**Erythema.**

- bulbosum or pemphigus, Williams (S. Tr.), 544.
- figuratum perstans, Mook (O.), 635.
- figuratum perstans, Wise (S. Tr.), 184.
- fixed, of the palms, Adamson (Abs.), 618.
- induratum, Ochs (S. Tr.), 776.  
(see also Bazin's disease.)
- induratum, Rothwell for Brand (S. Tr.), 556.
- induratum, resembling syphilis, MacKee (S. Tr.), 265.
- multiforme perstans, MacKee and Wise (S. Tr.), 554.
- multiforme with marked pigmentation, McEwen (S. Tr.), 107.
- of the upper lids, Harris (S. Tr.), 109.
- perstans, MacKee for Fordyce (S. Tr.), 546.

**Erythemata, some, often wrongly diagnosed.** Gregor (Abs.), 789.**Erythrodermie.**

- congenitale ichthyosiforme, MacKee and Rosen (O.), 235, 343, 511.

**Erythrodermia.**

- generalized, and atrophy of the skin, lymphadenosis cutis universalis with, Wise (O.), 669.

**Etiology.**

- of skin disease, focal infection in, Chipman (O.), 646.

**Exanthems.**

- confusion of quicksilver and salvarsan, Wechselsmann (Abs.), 121.
- mercury and salvarsan, confusion of, Neisser (Abs.), 124.

**Extragenital.**

- chance, giant, Aja and Forno (Abs.), 126.  
(see also syphilis.)

**F****Factitious.**

- dermatitis and neurotic gangrene, Simpson (O.), 493.

**Familial.**

- cyanosis, Harris (S. Tr.), 41.

**Favus.**

- a unique case of, McGarry (O.), 253.
- of the scalp and eyelids, Weidler (Abs.), 621.

**Fibrosarcoma.**

- Pfahler (S. Tr.), 102.

**Fissure.**

- of the lip, a device for its treatment, Pusey (O.), 16.

**Focal.**

- infection, herpes zoster, Lain (O.), 486.
- infection in the etiology of skin disease, Chipman (O.), 646.

**Follicular.**

- eczema seborrheicum, type of, Trimble (O.), 11.

**Folliculitis.**

- decalvans, G. H. Fox (S. Tr.), 772.

**Freezing.**

- and Uviol lamp treatment in connection with Roentgen and radium exposures, Axmann (Abs.), 125.

**Frostbite.**

- in the hand, resembling Raynaud's disease, Yawger (Abs.), 130.

**Fruit.**

- ingestion, relation of, to cutaneous diseases, Davidson (O.), 665.

**Furuncle.**

- susceptibility to, Montgomery and Culver (Abs.), 620.

**Furunculosis.**

- orientalis, Geyser (S. Tr.), 54.
- sterilization treatment of, further word on, Bowen (Abs.), 399.

**Gangrene.**

- neurotic, and dermatitis factitia, Simpson (O.), 493.
- symmetrical, of the skin, Sibley (Abs.), 619.

**"Gel" test, Strickler (O.), 426. See syphilis.****Glycerin, Montgomery (O.), 662.****Granuloma.**

- annulare, Stillians (S. Tr.), 841.
- clinico-pathologic study of an unusual cutaneous neoplasm combining nevus syringadenomatosus papilliferus and a, Stokes (O.), 411.



**Granuloma.**

inguinale tropicum, Harris (S. Tr.), 855.

pyogenicum, Armstrong (S. Tr.), 115.  
pyogenicum, high blood pressure in, Montgomery and Culver (O.), 338.

**Growth.**

new, a case of multiple benign tumor like, of Schweninger and Buzzi, Pusey (O.), 582.

**Gumma, see syphilis.****Hemophilia.**

blood platelets in, Minot and Lee (Abs.), 199.

**Hecht-Gradwohl.**

test, some remarks on the serological diagnosis of syphilis, with special reference to the, Gradwohl (Abs.), 617.

**Hectine.**

in the treatment of oriental sore, Borgrov and Grinchar (Abs.), 128.

**Hemorrhage.**

with telangiectasia, hereditary (Abs.), 621.

**Heredosyphilitic.**

dental stigmata, Stein (Abs.), 134.

**Herpes.**

iris, etiology of, Queyrat and Pinard (Abs.), 390

zoster, a focal infection, Lain (O.), 486.

**Hexamethylenetetramin.**

derivatives and mercury and arsenic compounds, resistance of spirochetes to the action of, Akatsu (Abs.), 622.

**Histopathology.**

lichen, the; lichenifications and neurodermitis, Heimann (O.), 28.

**Hodgkin's**

disease, cutaneous metastases in, Al-derson (O.), 481.

**Hydroa vacciniforme, Trimble (S. Tr.), 257.****Hyperidrosis.**

circumscripta, the histopathology of, Sutton (O.), 154.

localized, Sweitzer (S. Tr.), 281.

**Hypertrichosis.**

and the X-ray, MacKee (O.), 171.  
the problem of, McEwen (O.), 829.

**Ichthyosiform.**

erythrodermia, congenital, MacKee and Rosen (O.), 511.

**Infectious.**

eczematoid dermatitis, Rosen (S. Tr.), 778.

**Initial lesion, see syphilis.****Intraspinal.**

injections of neosalvarsanized serum in nervous and mental diseases, Gordon (Abs.), 621.

**Inunction.**

treatment of syphilis, further studies on the mode of absorption of mercury in the, Wile and Elliott (O.), 594.

**Iodid.**

compounds, in vitro, drug-fastness of spirochetes to arsenic, mercurial and, Akatsu and Noguchi (Abs.), 622.

**Iron.**

sulphate, pigmentation of the skin due to efflorescent, Butler (S. Tr.), 115.

**K**

**Keloid**, H. Fox and Pisko (S. Tr.), 266.  
and urticaria papulosa, Eddowes (Abs.), 619.

**Keloids.**

multiple, of the sternum, E. P. Zeisler (S. Tr.), 849.

**Keratoderma blennorrhagica, Little and Hayne (Abs.), 209.**

nevroid, Ormsby (S. Tr.), 613.

**Keratosis.**

blennorrhagica, Montpellier (Abs.) 783,

follicularis, Little (Abs.), 210.

follicular (lichen spinulosus), Sequeira (Abs.), 782.

telangiectases, Quinn (S. Tr.), 854.

**Koilonychia.**

congenital alopecia and deformed teeth, Ormsby (S. Tr.), 856.

**Kraurosis.**

vulvæ, study of, Brocq (Abs.), 125.

**Kromayer lamp.**

in skin diseases, Wise (Abs.), 405.

therapeutic result of exposure to the, Stuenkel (Abs.), 121.

**Larva migrans, Gaskill (S. Tr.), 105.**

Whitehouse (S. Tr.), 187.

Whitehouse (S. Tr.), 263.

presentation of photographs of, H. Fox (S. Tr.), 608.

**Lecutyl.**

and artificial sunlight treatment of localized tuberculosis with, Strauss (Abs.), 625.

**Leishmanioses.**

anatomy of, and concomitant ganglionic lymphangitis, Bogrov (Abs.), 127.

cutaneous, clinical aspect of, Mescherski (Abs.), 127.

**Lepra.**

tuberosa et mutilans, Gottheil (S. Tr.), 267.

**Leprosy.**

Boreen (S. Tr.), 116.

nodular and anesthetic, MacKee and Wise (S. Tr.), 556.

of the bible, Dubrenilh and Barges (Abs.), 126.

public health aspects of, McCoy (Abs.), 398.

**Leucocythemia.**

cutis, a case of, Shaw and Loughlin (Abs.), 781.

Shaw and Loughlin (Abs.), 405.

**Leucocytic** (Dohle) inclusions in scarlet fever, diphtheria, angina and serum exanthems, diagnostic value of, Rosanoff (Abs.), 194.

**Leucoderma.**

acquisitum centrifugum.

an unusual variety of, Shelmire (O.), 163.

psoriaticum, Heimann for Fordyce (S. Tr.), 605.

psoriaticum, MacKee for Fordyce, (S. Tr.), 545.

syphiliticum (see syphilis).

**Leuconychia.**

in three generations, H. Fox and Pisko (S. Tr.), 559.

**Leukemia.**

cutis, Clark (S. Tr.), 708.

**Lichen.**

acuminatus, Trimble (S. Tr.), 188.

atrophicus and psoriasis, Sibley (Abs.), 619.

hypertrophicus, Gilmour (S. Tr.), 57.

nitidus, Harris (S. Tr.), 114.

obtusius corneus, Sibley (Abs.), 210.

planus, acute, Ormsby (S. Tr.), 51.

planus.

annularis, MacKee and Wise (S. Tr.), 40.

annularis, Schamberg (S. Tr.), 386.

**Lichen.**

planus, Harris (S. Tr.), 280.

planus hypertrophicus, Boreen (S. Tr.), 117.

planus.

hypertrophicus.

showing result of treatment, H. Fox (S. Tr.), 273.

linearis, MacKee for Fordyce (S. Tr.), 39.

linearis unilateralis, Auner (O.), 166.

planus, Wise (S. Tr.), 190.

planus with zoster-like eruption, Parounagian (S. Tr.), 548.

scrofulosorum, Little (Abs.), 209.

scrofulosorum, Whitehouse (S. Tr.), 711.

scrofulosorum, Zeisler (S. Tr.), 110.

spinulosus (follicular keratosis), Sequeira (Abs.), 782.

**Lichenifications.**

and neurodermitis: the lichens, Heimann (O.), 28.

**Lichens.**

the: lichenifications and neurodermitis, Heimann (O.), 28.

**Linear.**

nexus of the neck, Wise for Fordyce (S. Tr.), 715.

**Lingua.**

geographica, MacKee and Wise (S. Tr.), 777.

**Lip.**

epithelioma (?) of, H. Fox (S. Tr.), 51.

fissure of the, a device for its treatment, Pusey (O.), 16.

**Livedo annularis.**

(see, also, asphyxia reticularis.)

reticularis, Adamson (Abs.), 615.

(see cutis marmorata.)

**Locomotor ataxia** (see syphilis).

**Lymphadenoma.**

a case of, with cutaneous lesions, Corbett (Abs.), 781.

with cutaneous lesions, Corbett (Abs.), 618.

**Lymphadenosis.**

cutis universalis, associated with generalized erythrodermia and atrophy of the skin, Wise (O.), 669.

**Lymphangioma.**

circumscriptum, Trimble (S. Tr.), 36.

circumscriptum, Trimble (S. Tr.), 605.

**Lymphoid.**

and plasma cells of the syphilitic chancre, Nanta (Abs.), 126.

**Lymphosarcoma (?)**

of the scalp, Clark (S. Tr.), 710.

**Lues.**

congenital, Ormsby (S. Tr.), 49.  
hereditaria tarda (?), Armstrong  
(S. Tr.), 115.

**Lues** (see also syphilis).

**Luetic.**

edema of the lip, Harris (S. Tr.), 110.

**Lung.**

syphilis and tuberculosis in the same,  
Kealty (Abs.), 129.  
syphilis of the, a case of, Sainz de  
Aja (Abs.), 126.

**Lupus.**

erythematosus, acute, Harris (S. Tr.),  
851.

erythematosus.  
and tuberculosis, Mount (Abs.),  
206.

erythematosus and papulo-necrotic tu-  
berculid, MacKee and Wise  
(S. Tr.), 777.

erythematosus and tuberculid, Saten-  
stein (S. Tr.), 561.

erythematosus and tuberculid, Mac-  
Kee and Scheer (S. Tr.), 558.

erythematosus and its management,  
practical observations on, Wise  
(O.), 500.

erythematosus associated with alo-  
pecia areata, Shaffner (S. Tr.),  
610.

erythematosus disseminatus, Ormsby  
(S. Tr.), 843.

erythematosus.  
extensive, H. Fox (S. Tr.), 191.

erythematosus in a luetic, Potthoff  
(S. Tr.), 610.

erythematosus, Lapowski (S. Tr.),  
558.

erythematosus, Little (Abs.), 782.

erythematosus, McEwen (S. Tr.), 277.

erythematosus of dorsa of the hands,  
Weiss (S. Tr.), 269.

erythematosus of the face, Ormsby  
(S. Tr.), 847.

erythematosus of the lip, Kingsbury  
(S. Tr.), 547.

erythematosus or lupus vulgaris with  
epithelioma, H. Fox (S. Tr.), 711.

erythematosus or chronic eczema ?  
diagnosis of chronic eczema as  
a result of X-ray therapy, Weiss  
(S. Tr.), 564.

erythematosus.  
presenting unusual features, Arm-  
strong (S. Tr.), 281.

erythematosus, Shaffner (S. Tr.), 44.  
erythematosus.

Whitehouse (S. Tr.), 36.

**Lupus.**

erythematosus with syphilis, Potthoff  
(S. Tr.), 854.

vulgaris and xanthelasma, Lapowski  
(S. Tr.), 557.

vulgaris erythematodes, Harris and  
Stillians (S. Tr.), 840.

vulgaris.

extensive, H. Fox (S. Tr.), 38.

extensive, H. Fox (S. Tr.), 184.

vulgaris or lupus erythematosus with  
epithelioma, H. Fox (S. Tr.), 711.

vulgaris, radium treatment of, Has-  
lund (Abs.), 616.

vulgaris, Stillians (S. Tr.), 49.

vulgaris, superficial, of serpiginous  
type, H. Fox (S. Tr.), 708.

vulgaris treated by Roentgen ray,  
Clark (S. Tr.), 606.

vulgaris, tuberculosis cutis and lues,  
Lapowski (S. Tr.), 557.

**M****Macular.**

eruption, circinate, of syphilis, Mac-  
Kee and Wise (S. Tr.), 549.

**Madura foot** in Trinidad, Sehenuit  
(Abs.), 200.

**Manhattan Dermatological Society.**

May 12, 1916, 51.

Oct. 13, 1916, 264.

Nov. 10, 1916, 560.

Dec. 8, 1916, 772.

**Measles.**

and the public health, Place (Abs.),  
205.

observations on, Lewis (Abs.), 787.

**Melanoderma** of undetermined origin,  
Lane (S. Tr.), 191.

**Melanoma.**

Johnston for Heimann (S. Tr.), 40.

**Melanotic.**

sarcoma, Waugh (S. Tr.), 849.

**Meningeal.**

syphilis, local treatment of, Genne-  
rich (Abs.), 122.

**Mercurial.**

arsenic and iodid compounds, drug-  
fastness of spirochetes to, in  
vitro, Akatsu and Noguchi (Abs.),  
622.

compounds.

chemotherapy of, Schamberg, Kol-  
mer and Raiziss (Abs.), 407.

**Mercurialized serum**, intraspinal in-  
jection of, Hunt (Abs.), 211.

**Mercurialized serum.**

intraspinal injections of, in the treat-  
ment of syphilis of the central  
nervous system, Wolfsohn (Abs.),  
396.

**Mercury.**

- and salvarsan eruptions, confusion of, Wechselmann (Abs.), 625.
- and salvarsan exanthems, confusion of, Neisser (Abs.), 124.
- exanthem or arsenical keratoses (?), Philip (Abs.), 623.
- exanthems, the confusion of, and salvarsan, Wechselmann (Abs.), 121.
- mode of absorption of, in the inunction treatment of syphilis, further studies on, Wile and Elliott (O.), 594.

**Mesothorium.**

- blood changes after radiation with, Schweitzer (Abs.), 624.

**Metabolism.**

- nitrogen, in eczema, a study of two cases of, Schamberg and Raiziss (O.), 136.

**Minnesota Dermatological Society.**

- Oct. 10, 1916, 114.
- Dec. 12, 1916, 280.

**Molluscum.**

- contagiosum and report of three cases, Strickland (Abs.), 789.

**Monilethrix.**

- Kingsbury (S. Tr.), 35.

**Morphea, G. H. Fox (S. Tr.), 256.**

- Heimann (S. Tr.), 37.
- guttata, Ormsby (S. Tr.), 846.
- (see scleroderma)
- multiple lesions, H. Fox (S. Tr.), 37.
- or scleroderma, Weiss (S. Tr.), 776.
- scleroderma, Pernet (Abs.), 619.
- treated by thyroid extract, Weiss (S. Tr.), 774.

**Multiple.**

- benign hemorrhagic sarcoma, Zeisler (S. Tr.), 108.

**Mycosis fungoides.**

- MacKee and Wise (S. Tr.), 37.
- Pringle (Abs.), 209.
- Quinn (S. Tr.), 47.
- Quinn (S. Tr.), 850.
- or sarcoid ?, H. Fox (S. Tr.), 180.
- prefungoid stage of, Kingsbury (S. Tr.), 37.
- prefungoid stage, MacKee and Wise (S. Tr.), 273.
- premycotic stage of, MacKee (S. Tr.), 189.
- the pathology of, Fraser (O.), 793.
- unusual form of, Gottheil (Abs.), 626.

**Myxedema.**

- polyglandular syndrome, Oulmann (S. Tr.), 549.

**N****Neoplasm.**

- unusual cutaneous, clinico-pathologic study of a, combining nevus syringadenomatosus papilliferus and a granuloma, Stokes (O.), 411.

**Neosalvarsan.**

- intra-arterial infusion of, for the treatment of cerebrospinal syphilis, Sinclair (Abs.), 789.
- (see salvarsan).
- therapy, Pomiton (Abs.), 123.

**Neosalvarsanized.**

- serum, intraspinal injections of, in nervous and mental diseases, Gordon (Abs.), 621.

**Neurodermitis.**

- and lichenifications; the lichens, Heimann (O.), 28.

**Nevoid.**

- keratodermia, Ormsby (S. Tr.), 613.

**Nevus, Pardee (S. Tr.), 608.**

- anemicus, Harris (S. Tr.), 45.
- anemicus, Harris (S. Tr.), 280.
- anemicus, Harris (S. Tr.), 852.
- anemicus, scar suggesting, Harris (S. Tr.), 45.
- linear, Senear (S. Tr.), 768.
- linear, of the neck, Wise for Fordyce (S. Tr.), 715.
- pigmented, unilateral, H. Fox (S. Tr.), 264.
- syringadenomatosus papilliferus and a granuloma, a clinico-pathologic study of an unusual cutaneous neoplasm, combining, Stokes (O.), 411.
- vascular, showing effects of treatment with quartz lamp, Pusey (S. Tr.), 841.
- (see ultraviolet light)

**New York Academy of Medicine.**

- Section on Dermatology, Oct. 3, 1916, 188.
- Section on Dermatology, Nov. and Dec., 1916; Jan. and Feb., 1917, 547.

**New York Dermatological Society.**

- May 23, 1916, 35.
- Oct. 24, 1916, 179.
- Nov. 28, 1916, 255.
- Dec. 19, 1916, 605.
- Jan. 22, 1917, 541.
- Feb. 28, 1917, 705.

**Nitrogen.**

- metabolism in eczema, a study of two cases of, Schamberg and Raiziss (O.), 136.



**Non-Malignant**

diseases of the skin, Coolidge tube in the treatment of, H. Fox (O.), 599.

**Nose.**

epithelioma (?) of, H. Fox and Ochs (S. Tr.), 56.

**Notice.**

organization of the American Association for the Control of Syphilis, 634.

**O****Obituary.**

William Beer Ewing, 791.  
Burnside Foster, 791.  
Fox, Thomas Colcott, 213.  
Jamieson, William Allen, 214.

**Onychia (see, also, syphilis).****Onychia.**

sycosis vulgaris, blastomycosis and, Hartzell (S. Tr.), 385.

**Oriental.**

sore, Biskra button, Geyser (S. Tr.), 54.  
sore, hectine in the treatment of, Bogrov and Grinchar (Abs.), 128.

**Oxidation.**

and reduction theory of therapeutics, a case illustrating the, McDonagh (Abs.), 619.

**P****Paget's**

disease, Mackey (S. Tr.), 850.

**Pagoplexia.**

study of the factors in, Lougin (Abs.), 125.

**Parakeratosis.**

(pityriasis lichenoides, Juliusberg type), Ormsby (S. Tr.), 841.  
variegata, Little (Abs.), 208.  
variegata, Ormsby (S. Tr.), 43,  
(see parapsoriasis.)  
and dermatitis psoriasiformis nodularis, Hanawa and Nagai (Abs.), 391.  
en plaques, Harris (S. Tr.), 851.  
guttata, MacKee (S. Tr.), 542.  
guttata, Stokes (S. Tr.), 44.

**Parasitology.**

of syphilis, Noguchi (Abs.), 616.

**Paratyphoid.**

and typhoid roseola, Fraenkel (Abs.), 624.

**Paresis (see syphilis).****Pediculi.**

capitis, invasion of the pubic region by, Nicholas and Massia (Abs.), 782.

**Pediculosis.**

capitis, Spindler (Abs.), 128.

**Pellagra.**

Perdue (Abs.), 788.  
Potter (Abs.), 787.  
causation and alleviation, Shaw (Abs.), 404.  
causation and method of treatment of, Goldberger (Abs.), 393.  
etiology of; a consideration of vitamin deficiency, Wood (Abs.), 395.  
experimental test of the relation of sewage disposal to the spread of, Siler, Garrison and MacNeal (Abs.), 784.  
in women, relation of pregnancy and childbirth to, Siler, Garrison and MacNeal (Abs.), 622.  
its etiology and treatment, Yarbrough (Abs.), 133.  
relation of recurrent attacks of, to race, sex and age of the patient and to treatment of the disease, Siler, Garrison and MacNeal (Abs.), 199.  
résumé of known facts, Perdue (Abs.), 404.  
sanitation and control of, Nesbitt (Abs.), 395.  
transmissibility of; attempts at transmission to the human subject, Goldberger (Abs.), 211.

**Pemphigoid eruption due to bed-bug bite, Hanawa (Abs.), 195.****Pemphigus.**

MacKee (S. Tr.), 185.  
Trimble (S. Tr.), 188.  
of mouth and conjunctiva, H. Fox (S. Tr.), 705.  
or erythema bullosum, Williams (S. Tr.), 544.  
vulgaris, Gottheil (S. Tr.), 270.

**Periostitis.**

syphilitic, H. Fox and Ochs (S. Tr.), 57.

**Perlèche.** A review of the literature with a bibliography and some observations on the disease as seen in New Haven, Lane (O.), 433.

**Pernicious**

anemia, case of, in a syphilitic, treated with salvarsan, Lowry (Abs.), 788.

**Phagadena.**

new contribution to the study of geometrical, Brocq (Abs.), 782.

**Phenol.**

Montgomery (O.), 157.  
letter from E. W. Abramowitz on, 630.

**Philadelphia Dermatological Society.**

Oct. 16, 1916, 102.  
Nov. 20, 1916, 385.

**Phthisis.**

and tuberculosis cutis, Sibley (Abs.), 782.

**Physics.**

of Roentgen rays, recent progress in the, Sommerfeld (Abs.), 120.

**Pigmentation.**

dermatitis with, and depigmentation, Stillians (S. Tr.), 769.  
marked erythema multiforme with, McEwen (S. Tr.), 107.  
of the skin due to efflorescent iron sulphate, Butler (S. Tr.), 115.  
recurrent urticaria bullosa, with, Harris (S. Tr.), 842.

**Pigmented.**

stripe in the thumb nail, Montgomery (O.), 99.

**Pityriasis.**

lichenoides, Juliusberg type, parakeratosis, Ormsby (S. Tr.), 841.  
rubra pilaris, Lapowski (S. Tr.), 554.  
rubra pilaris, Lapowski (S. Tr.), 559.  
rubra pilaris, Zeisler (S. Tr.), 47.

**Plasma cells.**

and lymphoid cells of the syphilitic chancre, Nanta (Abs.), 126.

**Polyglandular.**

syndrome, myxedema, Oulmann (S. Tr.), 549.

**Porto Rico.**

skin diseases of, Blaisdell (O.), 459.

**Post-vaccinal.**

eruption, Harris (S. Tr.), 45.

**Premycotic.**

eruption, Harris (S. Tr.), 769.  
(see mycosis fungoides.)

**Prophylaxis.**

antivenereal, by civil and military authorities, Balzer (Abs.), 388.

**Prurigo.**

ferox, Gottheil (S. Tr.), 265.

**Pruritus.**

ani, a treatment for, Stone (Abs.), 200.

**Pseudoleukemia.**

cutis, Clark (S. Tr.), 706.

**Pseudo-pelade.**

alopecia cicatrisata, MacKee for Fordyce (S. Tr.), 545.

**Psoriasis.**

and lichen atrophicus, Sibley (Abs.), 619.  
and tuberculosis, Gallego (Abs.), 628.  
dermatitis herpetiformis, Harris (S. Tr.), 857.  
extensive, of palms and soles, Hartzell (S. Tr.), 386.  
generalized, inveterate, Ormsby (S. Tr.), 843.  
gummata appearing in psoriatic patches, Wise (S. Tr.), 607.  
pathogenesis of, Cook (Abs.), 129.

**Psoriatic.**

leucoderma, MacKee for Fordyce (S. Tr.), 545.

**Purpura.**

annularis telangiectodes, Heimann (S. Tr.), 714.  
annularis telangiectodes, MacKee for Fordyce (S. Tr.), 705.  
(see Majocchi's disease.)  
following use of rubber bandage, H. Fox (S. Tr.), 263.

**Purpuric.**

eruption, E. P. Zeisler (S. Tr.), 849.

**Q****Quartz.**

lamp, Kromayer's mercury, influence of the radiations from, on the cerebral cortex, Wago (Abs.), 785.

(see ultraviolet light.)

lamp, therapeutic results of exposure to the, Stuempke (Abs.), 121.

lamp, vascular nevus showing effects of treatment with, Pusey (S. Tr.), 841.

light in cutaneous diseases, Pisko (Abs.), 130.

**Quinin.**

and urea hydrochlorid, destruction of angiomas and other new growths by, Babcock (Abs.), 620.

**R****Radiodermatitis.**

and epithelioma, followed by plastic operation, Lane (S. Tr.), 551.

**Radium.**

and roentgen exposures, freezing and Roentgen lamp treatment in connection with, Axmann (Abs.), 125.

**Radium.**

- or roentgen rays, the preoperative reduction of epithelioma by, Montgomery (O.), 837.
- therapy, carbon dioxid snow as a sensitizer in, Sommer (Abs.), 122.
- therapy, some clinical aspects of, Chase (Abs.), 133.
- treatment of lupus vulgaris, Haslund (Abs.), 616.
- treatment of malignant diseases of lip and skin, Atkins (Abs.), 788.
- use of, in treatment of cutaneous epithelioma and keratosis, Burns and Blaisdell (Abs.), 787.

**Raynaud's**

- disease (dry gangrene) massage in, Graham (Abs.), 619.
- disease, frostbite in the hand, resembling, Yawger (Abs.), 130.

**Reactions.**

- food, anaphylactic, in skin diseases, Strickler (Abs.), 129.
- skin, effect of certain drugs on, Kolmer, Immerman, Matsunami, Montgomery (Abs.), 785.
- skin, mechanism and clinical significance of anaphylactic and pseudo-anaphylactic. Kolmer (Abs.), 784.

**Resolutions.**

- the late Geo. Thomas Jackson, 633.

**Rhinoscleroma.**

- Gottheil (S. Tr.), 269.
- MacKee and Wise (S. Tr.), 190.
- rodent ulcer following, Stelwagon (S. Tr.), 105.

**Ringworm.**

- alopecia areata and, occurring simultaneously in the same location, Lane (Abs.), 399.
- epidermophytosis of the hand, Sweitzer (S. Tr.), 117.
- small spored, a case of, in an adult, Little (Abs.), 619.
- trichophyton violaceum, is it a distinct type? Chernogubov (Abs.), 390.

**Rodent ulcer.**

- following rhinoscleroma, Stelwagon (S. Tr.), 105.

**Roentgen.**

- and radium exposures, freezing and Uviol lamp treatment, in connection with, Axmann (Abs.), 125.

**Roentgen ray.**

- hypertrichosis and the, MacKee (O.) 171.
- lupus vulgaris treated by, Clark (S. Tr.), 606.

**Roentgen ray.**

- the Coolidge tube in the treatment of non-malignant diseases of the skin with the, H. Fox (O.), 599.

**Roentgen**

- ray therapeutics, Quimby, J. A., and Quimby, W. A. (Abs.), 132.
- ray ulceration, MacKee (S. Tr.), 712. (see X-Ray.)
- rays or radium, the preoperative reduction of epithelioma by, Montgomery (O.), 837.
- rays, recent progress in the physics of, Somerfeld (Abs.), 120.
- rays, treatment of venereal buboes with, Kall (Abs.), 120.
- rays, wave length of, as a measure of penetrability, Somerfeld (Abs.), 626.
- therapeutics, practical points in, A. Simpson (O.), 231.
- therapy, scope and technic of, Levin (Abs.); 206.

**Rosacea.**

- acne, peculiar, Pusey (S. Tr.), 48.

**Roseola.**

- typhoid and paratyphoid, Fraenkel (Abs.), 624.

**S****Salivary.**

- calculus, Lane (S. Tr.), 550.

**Salvarsan.**

- and mercury eruptions, confusion of, Wechselmann (Abs.), 625.
- and mercury exanthems, the confusion of, Neisser (Abs.), 124.
- arsenobenzol in place of, Chapin (Abs.), 392.
- a study of serum salvarsanized in vitro, Swift (Abs.), 397.
- case of pernicious anemia in a syphilitic treated with, Lowry (Abs.), 788.
- exanthem, the confusion of, and quicksilver, Wechselmann (Abs.), 121.
- experimental and clinical studies of the toxicity of dioxydiamino-arsenobenzol dichlorhydrate, Schamberg, Kolmer and Raiziss (O.), 286.
- how it sterilizes syphilis; retarding and aggravating action of, on syphilitic accidents, Bralez and Arion (Abs.), 389.
- sodium, concentrated solutions of, Seyfarth (Abs.), 123.
- sodium in concentrated solution, experiences with, Schmitt (Abs.), 624.
- neo, therapy, Powiton (Abs.), 123.

**Salvarsan.**

- patents and the powers of Congress (O.), Schamberg, 283.
- simplification of technic of intravenous injections of concentrated neosalvarsan solutions, Ravaut (Abs.), 388.
- tuberculosis and syphilis as a double infection treated with, Potter (Abs.), 396.

**Sarcoid.**

- Boeck's, with involvement of the internal organs, Kutzuitzky and Bittorf (Abs.), 120.
- (Darrier-Roussy), Lapowski (S. Tr.), 555.
- or mycosis fungoides? H. Fox (S. Tr.), 180.

**Sarcoma.**

- Kaposi's, Weiss (S. Tr.), 273.
- lymph, of the scalp, Clark (S. Tr.), 710.
- melanotic, Waugh (S. Tr.), 849.
- multiple benign hemorrhagic, Zeisler (S. Tr.), 108.
- multiple, idiopathic, hemorrhagic, three cases of so-called, Weber (Abs.), 616.
- squamous cell, Pfahler (S. Tr.), 104.

**Sarcomatosis.**

- cutis, multiple, Ormsby (S. Tr.), 608.
- multiple, Ormsby (S. Tr.), 854.

**Scabies.**

- treatment of, by sulphur fumigation, Bruce (Abs.), 781.

**Scar.**

- suggesting nevus anemicus, Harris (S. Tr.), 45.

**Scarlatina**, morbidity and case fatality by locality, sex, age and season, Donnally (Abs.), 203.**Scarlatiniform.**

- exanthem, a peculiar, late, following typhoid and cholera vaccination, Friboes (Abs.), 623.

**Scarlet**

- fever.
  - a laboratory aid in the diagnosis of, Lewis (Abs.), 400.
  - control of, Lewis (Abs.), 205.

**Sclerema.**

- neonatorum, Harris (S. Tr.), 47.
- neonatorum, Stowers (Abs.), 618.

**Sclerodactylia.**

- with calcareous concretions, with report of a case, Olson (O.), 96.

**Scleroderma.**

- Harris (S. Tr.), 850.

**Scleroderma** (?) Heimann (S. Tr.), 545. and traumatism, Thibierge (Abs.), 126.

- on a rare form of, Ravogli (O.), 1.
- or morphea, Weiss (S. Tr.), 776.

**Sclerodermia.**

- circumscripta, further observations on so-called white spot disease, or, Wise and Rosen (O.), 66.
- edematous, case of, MacLeod (Abs.), 618.

**Seborrheic.**

- dermatitis, Cunningham (Abs.), 132.
- eczema.
  - Kingsbury (S. Tr.), 35:
  - the follicular type of, Trimble (O.), 11.

**Sepsis.**

- focal, in the genito-urinary tract, as a cause of constitutional disease, Reilly (Abs.), 784.

**Serum.**

- diagnosis of syphilis, procedure for, especially recommended for hospital routine, Bronfenbrenner and Schlesinger (Abs.), 617.
- neosalvarsanized, intraspinal injections of, in nervous and mental diseases, Gordon (Abs.), 621.

**Sewage.**

- disposal, an experimental test of the relation of, to the spread of pellagra, Siler, Garrison and McNeal (Abs.), 784.

**Skin.**

- diseases of Porto Rico, Blaisdell (O.), 459.
- reactions, effect of certain drugs on, Kolmer, Immerman, Matsunami, Montgomery (Abs.), 785.
- reactions, mechanism and clinical significance of anaphylactic and pseudo-anaphylactic, Kolmer (Abs.), 784.
- resistance, diminution of, Brocq (Abs.), 390.

**Spirocheta.**

- pallida.
  - demonstration of, in the cerebral cortex of a congenitally syphilitic child, Kiely (Abs.), 402.
  - cultural experiments with, from paretic brains, Wile and de Kruif (Abs.), 394.
  - studies of, in relation to syphilis; further studies in the relation of cultural pallida to virulent pallida and on reinfection phenomenon, Zinsser, Hopkins and McBurney (Abs.), 397.

**Spirochetes.**

- cultivation of, influence of carbohydrates on, Akatsu (Abs.), 623.



**Spirochetes.**

- drug-fastness of, to arsenic, mercurial and iodid compounds *in vitro*, Akatsu and Noguchi (Abs.), 622.  
 resistance of, to action of hexamethylenetetramin derivatives and mercury and arsenic compounds, Akatsu (Abs.), 622.

**Sporotrichosis.**

- Moore (S. Tr.), 609.  
 A clinical and histological report of the first case to be published in New England, Blaisdell (O.), 452.

**Spotted**

- fever, number and form of white blood cells in, Matthes (Abs.), 119.

**Squamous.**

- cell sarcoma, Pfahler (S. Tr.), 104.

**Staphylococcus.**

- vaccine, carbuncle of neck cured by, Cosiva (Abs.), 126.

**Striæ.**

- linearis, Gottheil and Ochs (S. Tr.), 57.

**Sunlight.**

- artificial, and lecetyl, treatment of localized tuberculosis with, Strauss (Abs.), 625.

**Surgery.**

- cutaneous, electric cautery in, Hazen (O.), 591.

**Sycosis.**

- parasitica, profound, result of 10 days' ordinary treatment, Gottheil (S. Tr.), 272.  
 tineæ, Stelwagon and Strauss (S. Tr.), 106.  
 vulgaris.  
   onychia, blastomycosis and, Hartzell (S. Tr.), 385.  
   vulgaris, treated with the Kromayer lamp, Seneor (S. Tr.), 278.

**Syphilid.**

- acuminate, resembling variola, H. Fox and Pisko (S. Tr.), 778.  
 annular macular or so-called neurosyphilide, H. Fox (O.), 215.  
 vesicular, Hirschler (S. Tr.), 105.

**Syphilis.**

- palmar, H. Fox (Abs.), 617.  
 acquired, in a girl eight years old, Samuel (Abs.), 619.  
 a family of heredo-syphilitics; five cases of appendicitis among eight children, Gaucher (Abs.), 783.  
   (see syphilis congenita)  
 and the baby, De Buys (Abs.), 409.

**Syphilis.**

- and tuberculosis in the same lung, Kealty (Abs.), 129.  
 and vitiligo, Vignolo-Lutati (Abs.), 629.  
 annular, papular, Gaskill (S. Tr.), 387.  
 an unusual case of extragenital syphilitic infection, Rosenberg (Abs.), 128.  
 a sketch of my research on, McDonagh (O.), 222.  
 a test for, Ubel (Abs.), 130.  
 awakening of latent, in the course of treatment of gun-shot wounds, Toussaint (Abs.), 389.  
 Basedowism in a family afflicted with, Zelenev (Abs.), 391.  
 Bazin's disease resembling, MacKee (S. Tr.), 265.  
 cardiac, Satterthwaite (Abs.), 626.  
 case of pernicious anemia in a syphilitic treated with salvarsan, Lowry (Abs.), 788.  
 cerebrospinal fluid, study of, in 50 cases of neuro-, Sutter (Abs.), 401.  
 cerebrospinal, intra-arterial infusion of neosalvarsan for the treatment of, Sinclair (Abs.), 789.  
 chancre.  
   multiple, extra genital, 2 cases of, Fordyce (S. Tr.), 186.  
 chancre of rectum, Jost and Gradwohl (Abs.), 207.  
 chancre of the tonsil, Parounagian (S. Tr.), 548.  
 cholesterinized antigens in non-syphilitic sera, results with, McClure and Lott (Abs.), 196.  
 chorea of Sydenham, relationship to, Koplik (Abs.), 202.  
 circinate macular eruption, MacKee and Wise (S. Tr.), 549.  
 complement-fixation test for, simplified, Williamson (Abs.), 402.  
 congenita, MacKee and Rosen (S. Tr.), 558.  
 congenital, Heimann (Abs.), 131.  
 congenital, Ormsby (S. Tr.), 49.  
 congenital, dental stigmata, Stein (Abs.), 134.  
 congenital late, manifestations, Pernet (Abs.), 619.  
 congenital; prognosis and modern treatment, Wise (Abs.), 129.  
 contribution to the action of vanadium with particular reference to, Proesser, Seil and Stillians (Abs.), 616.  
 cured or clinically inactive, persistence of active lesions and spirochetæ in the tissues of, Warthin (Abs.), 197.

**Syphilis.**

- dermatology and, in 1916, Heimann and Scheer (Abs.), 403.
- diabetes mellitus and, Barach (Abs.), 399.
- diagnosis and general treatment of, Fordyce (Abs.), 196.
- diagnosis and general treatment of, Fordyce (Abs.), 786.
- diagnosis and treatment of modern, Smith (Abs.), 404.
- early, Levin (Abs.), 129.
- early, study of involvement of bones and joints in, Wile and Seneor (Abs.), 198.
- experimental, produced through local applications to mucous membranes, Reasoner (Abs.), 618.
- further studies on the mode of absorption of mercury in the inunction treatment of, Wile and Elliott (O.), 594.
- giant extragenital chancre, Aja and Forno (Abs.), 126.
- gumma of the nose, a clinical note, Harris (Abs.), 408.
- gumma of the scalp, Armstrong (S. Tr.), 280.
- gummata appearing in psoriatic patches, Wise (S. Tr.), 607.
- gummatous ulceration of the genitals in a pseudohermaphrodite, Gott heil (S. Tr.), 267.
- hereditaria tarda (?), Armstrong (S. Tr.), 115.
- hereditary.
- in the light of recent clinical studies, Veeder (Abs.), 198.
- hereditary, paternal, Gaucher (Abs.), 389.
- how closely do the Wassermann and placental histories agree in diagnosis of, Slemons (Abs.), 396.
- how sterilized by arsenobenzol; retarding and aggravating action of salvarsan on, Bralez and Arion (Abs.), 389.
- importance of determining the hemolytic index of the serum in the serum diagnosis of, by the Wassermann test and its derivatives, Portillo (Abs.), 628.
- importance of knowledge of, especially of visceral syphilis, for general medical diagnosis, Barker (Abs.), 410.
- influence of, in gynecology and obstetrics, Bovee (Abs.), 400.
- intraspinal administration of mercurialized serum, Hunt (Abs.), 211.
- intraspinous treatment of neural, and mercury, a new method, Lautman (Abs.), 208.

**Syphilis.**

- leucoderma, pseudosyphilitic, occurring in the Japanese, Okamura (Abs.), 195.
- luetie edema of the lip, Harris (S. Tr.), 110.
- lupus erythematosus in a luetic, Pott-hoff (S. Tr.), 610.
- lupus vulgaris and tuberculosis cutis, Lapowski (S. Tr.), 557.
- lymphoid and plasma cells of the syphilitic chancre, Nanta (Abs.), 126.
- meningeal, local treatment of, Gen-nerich (Abs.), 122.
- mercurialized serum in the treatment of neuro-, Wolfsohn (Abs.), 396.
- modern diagnosis and treatment, Thomas (Abs.), 621.
- new test for, McDonagh (Abs.), 210.
- observations on the bladder in diseases of the central nervous system, Caulk and Greditzer (Abs.), 408.
- ocular.
- subconjunctival injections of salvar-sanized serum in the management of, Lamb (Abs.), 408.
- of central nervous system, therapeutic aims and possibilities, Heimann (Abs.), 403.
- of central nervous system, treatment of, Swift (Abs.), 197.
- of stomach, McNeil (Abs.), 409.
- of stomach, Smithies (Abs.), 409.
- of stomach, clinical and roentgeno-logical study of 23 cases, Buster-mann (Abs.), 396.
- of the circulatory organs, Hazen (Abs.), 790.
- of the duodenum, Mortimer (Abs.), 618.
- of the lung, a case of, Sainz de Aja (Abs.), 126.
- of the lungs, Wood (Abs.), 205.
- of the nervous system, diagnosis of, Hunt (Abs.), 620.
- of the nervous system, unusual forms of, with particular reference to diagnosis, Collins (Abs.), 408.
- of the stomach, white (Abs.), 398.
- of the stomach; report of a case, Williams (Abs.), 790.
- of the stomach, roentgenological aspects of, Carman (Abs.), 409.
- of the thyroid, Thompson (Abs.), 410.
- onychia syphilitica universalis, Olson (S. Tr.), 281.
- palmar syphilides, H. Fox (Abs.), 617.
- papular, Lapowski (S. Tr.), 556.
- papular, Spiegel for Pollitzer (S. Tr.), 556.

**Syphilis.**

- papular, of the face, Lapowski (S. Tr.), 558.
- parasitology of, Noguchi (Abs.), 616.
- paresis.
  - cultural experiments from spirochetes derived from, Wile and de Kruif (Abs.), 394.
- place of, in medical schools and hospitals, White (Abs.), 410.
- plea for routine Wassermann examinations for obstetrical and gynecological patients in hospital and general practice, Peterson (Abs.), 410.
- practical application of Wassermann test in diagnosis and control of treatment of, Craig (Abs.), 410.
- probable tuberculous lesions of the lungs, McEwen (S. Tr.), 853.
- procedure for serum diagnosis of, especially recommended for hospital routine, Bronfenbrenner and Schlesinger (Abs.), 617.
- prognosis of, Sinclair (Abs.), 206.
- pulmonary, with report of a probable case, Phipps (Abs.), 787.
- Rabelais' conception of, Montgomery (Abs.), 410.
- report of the measures taken against the extension of, Gaucher (Abs.), 783.
- rôle of, in the negro insane, Wender (Abs.), 208.
- sanitary attack on, Pusey (Abs.), 409.
- secondary, Harris (S. Tr.), 113.
- secondary, MacKee for Fordyce (S. Tr.), 547.
- secondary, Schamberg (S. Tr.), 387.
- secondary syphilitic lesions of the tongue, Saison (Abs.), 131.
- series of ruptured aortic aneurysms, Wooley (Abs.), 617.
- some remarks on the serological diagnosis of, with special reference to the Hecht-Gradwohl test, Gradwohl (Abs.), 617.
- spirocheta.
  - pallida.
    - demonstration of, in cerebral cortex of congenitally syphilitic child, Kiely (Abs.), 402.
    - studies of, in relation to syphilis; cultural pallida in relation to virulent pallida; reinfection phenomenon, Zinsser, Hopkins and McBurney (Abs.), 397.
- spirochetal content of the spinal fluid of tabes, paresis and cerebrospinal, Wile (Abs.), 408.
- symposium on the teaching of, 717.
- tabes.
  - ataxia and treatment of post-syphilitic nervous disorders with mercury and salvarsan, Chiryeve (Abs.), 392.

**Syphilis.**

- dorsalis.
    - needleless surgical operations from failure to recognize, Nurzum (Abs.), 394.
  - teaching of, Hazen (Abs.), 410.
  - teaching of, in school and hospital, Smith (O.), 726.
  - tertiary, case of, after vaccination against typhoid, Bardach (Abs.), 123.
  - tertiary syphilitic lesions of face, Mackey (S. Tr.), 850.
  - testicular, Zigler (Abs.), 208.
  - the "Gel" test, Strickler (O.), 426.
  - therapy of, arsenical, six years of, Peyri (Abs.), 628.
  - the teaching of, Fordyce (O.), 717.
  - the teaching of, in undergraduate schools, Heimann (O.), 732.
  - tinnitus aurium and deafness (2 cases), Olson (S. Tr.), 117.
  - treatment of, Gardner (Abs.), 790.
  - tuberculosis and, treated with salvarsan, Wood (Abs.), 396.
  - verrucous, of the arm, Stillians (S. Tr.), 614.
  - vesicular, Hirschler (S. Tr.), 105.
  - visceral, cases shown at the clinic of the American Dermatological Association, held at Freedmen's Hospital, Washington, May 7, 1916, 101.
  - with lupus erythematosus, Potthoff (S. Tr.), 854.
  - with unusual pigmentation, MacKee and Rosen (S. Tr.), 560.
- Syphilitic.**
- aortitis.
    - clinical diagnosis of, Levy (Abs.), 402.
  - epilepsy, Levy-Bing and Gerbay (Abs.), 783.
  - exanthem, recurrent, Fordyce (S. Tr.), 187.
  - lesions, tertiary, of face, Mackey (S. Tr.), 850.
  - periostitis, H. Fox and Ochs (S. Tr.), 57.
  - tinnitus aurium and deafness (2 cases), Olson (S. Tr.), 117.
- Syringo-cystadenoma**, Clark (S. Tr.), 607.
- Syringocystoma**, H. Fox (S. Tr.), 258.
- Syringadenomatous.**
- nexus papilliferus, a clinico-pathologic study of an unusual cutaneous neoplasm, combining, and a granuloma, Stokes (O.), 411.
- Syringomyelia.**
- Pernet (Abs.), 782.

## T

**Tabes** (see syphilis).

**Tar**

acne due to, McEwen (S. Tr.), 853.

**Teaching.**

of syphilis, symposium on the, 717.

**Telangiectases.**

keratoses, Quinn (S. Tr.), 854.

**Telangiectasia.**

with hemorrhage, hereditary, Steiner (Abs.), 621.

**Test.**

for syphilis, Ubel (Abs.), 130.

"Gel," Strickler (O.), 426.

Hecht-Gradwohl, some remarks on the serological diagnosis of syphilis, with special reference to the, Gradwohl (Abs.), 617.

**Tetryl.**

an investigation into the cause and prevention of industrial diseases due to, Ruxton (Abs.), 781.

the properties of, as affecting the human system, Cripps (Abs.), 780.

**Thigasin.**

treatment of skin diseases with, Fraenkel (Abs.), 623.

**Thyroid.**

extract, morphea treated by, Weiss (S. Tr.), 774.

**Tinea.**

profunda, Gaskill (S. Tr.), 106.

sycosis, Stelwagon and Strauss (S. Tr.), 106.

tonsurans (microsporon), in an adult, a case of, Oliver (Abs.), 781.  
(see ringworm.)

**Tinnitus.**

aurium and deafness, syphilitic (2 cases), Olson (S. Tr.), 117.

**Tongue.**

epithelioma of the, Williams (S. Tr.), 40.

secondary syphilitic lesions of the, Saison (Abs.), 131.

**Traumatism.**

and scleroderma, Thibierge (Abs.), 126.

**Treatment.**

a device for, of fissure of the lip, Pusey (O.), 16.

**Treponema.**

pallidum (see spirocheta).

**Tricho.**

epithelioma of eyelids, Harris (S. Tr.), 852.

**Trichophyton.**

violaceum (Sabouraud), is it a distinct form of trichophyton? Shernogubov (Abs.), 390.

**Trichophytosis barbae** (see sycosis).

**Tuberculi.**

Shaffner (S. Tr.), 852.

papulo-necrotic, E. P. Zeisler (S. Tr.), 849.

papulo-necrotic, and lupus erythematosus, MacKee and Wise (S. Tr.), 777.

and lupus erythematosus, MacKee and Scheer (S. Tr.), 558.

and lupus erythematosus, Satenstein (S. Tr.), 561.

papulo-necrotic, MacKee and Wise (S. Tr.), 563.

papulo-necrotic, Weiss (S. Tr.), 564.

papulo-necrotic; dactylitis, MacKee and Wise (S. Tr.), 565.

**Tuberculosis.**

and psoriasis, Galleyo (Abs.), 628.

and syphilis in the same lung, Kealty (Abs.), 129.

cutis, Strickler (S. Tr.), 106.

cutis.

acute dessiminate, Little (Abs.), 209.

cutis and phthisis, Sibley (Abs.), 782.

cutis, extensive, H. Fox (S. Tr.), 553.

cutis, extensive, H. Fox (S. Tr.), 715.

cutis, lupus vulgaris and lues, Lapowski (S. Tr.), 557.

of the skin, Pusey (S. Tr.), 841.

localized, treatment of, with lecetyl and artificial sunlight, Strauss (Abs.), 625.

syphilis and, treated with salvarsan, Wood (Abs.), 396.

verrucosa cutis, Harris (S. Tr.), 50.

verrucosa cutis of the buttocks, For-dyce (S. Tr.), 541.

dispensary cases, Wassermann reaction in 251, Jones (Abs.), 133.

**Tuberculin.**

susceptibility to, Bessau (Abs.), 193.

**Tumor.**

of the lower lip, Stillians (S. Tr.), 858.

of the upper lip, Stillians, (S. Tr.), 851.

**Tumors.**

following injections of vaselin, Ormsby (S. Tr.), 612.

following vaselin injections, Ormsby (S. Tr.), 843.

**Typhoid.**

and paratyphoid roseola, Frankel (Abs.), 624.



## U

**Ulcer.**

- rodent, following rhinoscleroma, Stelwagon (S. Tr.), 105.
- varicose; its treatment, Canton (Abs.), 790.

**Ulceration.**

- Roentgen-ray, MacKee (S. Tr.), 712.

**Ulcers.**

- perforating, of the feet, Rosen (S. Tr.), 772.

**Ultraviolet.**

- light in cutaneous diseases, Pisko (Abs.), 130.
- rays in skin diseases, Wise (Abs.), 405.

**Urticaria.**

- bullosa, recurrent, with pigmentation, Harris (S. Tr.), 842.
- papulosa and keloid, Eddowes (Abs.), 619.
- perstans, Heimann (S. Tr.), 185.
- pigmentosa, MacKee for Fordyce (S. Tr.), 543.
- pigmentosa (?), Ormsby (S. Tr.), 855.
- pigmentosa, Pernet (Abs.), 209.
- pigmentosa.
  - in an adult, Pusey (S. Tr.), 48.
- pigmentosa, late, or urticaria pigmentosa beginning after puberty, Hartzell (O.), 756.
- xanthelasmaidea, Lapowski (S. Tr.), 555.
- the classification of the, Sutton (O.), 749.

**Uviol.**

- lamp and freezing treatment in connection with Roentgen and radium exposures, Axmann (Abs.), 125.

## V

**Vaccinal**

- post, eruption, Harris (S. Tr.), 45.

**Vaccination.**

- against typhoid, herpes zoster in the distribution of the cervical plexus, after, Budde (Abs.), 124.
- against typhoid, tertiary lues after, Bardach (Abs.), 123.
- staphylococcus, carbuncle of neck cured by, Cosiva (Abs.), 126.

**Vanadium.**

- contribution to the action of, with particular reference to syphilis, Proesser, Seil and Stillians (Abs.), 616.

**Varicella.**

- vaccination, prophylactic, for, Rabinoff (Abs.), 203.

**Variola.**

- acuminate syphilid resembling, H. Fox and Pisko (S. Tr.), 778.

**Vaselin.**

- injections of, tumors following, Ormsby (S. Tr.), 612.
- injections, tumors following, Ormsby (S. Tr.), 843.

**Verruca.**

- acuminate.
  - of buccal mucosa, Trimble (S. Tr.), 179.

**Verrucous.**

- lesions on hands, Trimble (S. Tr.), 184.

**Vitiligo.**

- and canites, MacKee and Heimann (S. Tr.), 557.
- and syphilis, Vignolo-Lutati (Abs.), 629.
- (see leucoderma.)

**Vitiligoid**

- eruption, H. Fox and Pisko (S. Tr.), 562.

**Von Recklinghausen's**

- disease, Bunch (Abs.), 618.

**Wassermann.**

- examinations.
  - plea for routine, for obstetric and gynecologic patients in hospital and general practice, Peterson (Abs.), 410.
- reaction.
  - erythrocytes, preservation of, for the, Reiman (Abs.), 401.
- reaction.
  - how closely does it agree with placental history in the diagnosis of syphilis, Slemons (Abs.), 396.
- reaction in 251 tuberculous dispensary cases, Jones (Abs.), 133.
- reaction, on the reliability of, Ottenberg (Abs.), 621.
- reaction.
  - routine, of 4,000 hospital patients, Walker and Haller (Abs.), 394.
- test and its derivatives, importance of determining the hemolytic index of the serum in the serum diagnosis of syphilis, by the, Portillo (Abs.), 628.
- test on surgery, influence of, Rhoads (Abs.), 617.
- test, technic of the quantitative, Portillo (Abs.), 783.
- test, the wake of, Minor (Abs.), 132.

**White**

- blood cells, number and form of, in spotted fever, Matthes (Abs.), 119.



**White spot disease.**

further observations on so-called, or  
sclerodermia circumscripta, Wise  
and Rosen (O.), 66.

**Wounds.**

gunshot, alopecia areata following,  
Poehlmann (Abs.), 121.

**X****Xanthelasma.**

and lupus vulgaris, Lapowski (S. Tr.),  
557.  
and xanthoma, H. Fox (S. Tr.), 179.

**Xantho-**

erythrodermia perstans, Bunch (Abs.),  
782.  
(see parapsoriasis)

**Xanthoma.**

and xanthelasma, H. Fox (S. Tr.),  
179.  
diabeticorum, Shaffner (S. Tr.), 111.  
tuberosum, Stillians (S. Tr.), 110.

**Xanthoma.**

tuberosum multiplex, MacKee and  
Wise (S. Tr.), 777.  
tuberosum multiplex, Parounagian  
(S. Tr.), 777.

**Xeroderma.**

pigmentosum, Potter (S. Tr.), 179.  
pigmentosum, acquired, Harris (S.  
Tr.), 847.  
pigmentosum, characters of the new  
growths in, Nakagawa (Abs.),  
196.

**X-ray**, see Roentgen ray.

**Z****Zoster.**

erythema, persistent, in, MacKee (S.  
Tr.), 116.  
herpes, a focal infection, Lain (O.),  
486.  
herpes, in the distribution of the cer-  
vical plexus after vaccination  
against typhoid, Budde (Abs.),  
124.

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# THE JOURNAL OF CUTANEOUS DISEASES

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## ORIGINAL COMMUNICATIONS.

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### ON A RARE FORM OF SCLERODERMA.\*

BY A. RAVOGLI, M.D., CINCINNATI.

THE object of reporting this case is to illustrate a form of disease which shows some peculiar clinical features. It occurred in a man in apparent good health, aged 32 years, married; he has had no children, is of strong constitution, and is employed as private policeman in a lumber concern. Not much could be learned of his parents, both of whom are dead, probably as a result of tuberculous affections.

#### CASE REPORT.

The patient, who claims to have always had good health, ascribes the origin of his present trouble to a cold. While watching at night in the lumber yard, he was caught in a heavy rain and remained the rest of the night with his wet clothes on.

Since then he began to experience pain all over the body, especially in the spinal region, which complaint the local physician treated as rheumatism. He got better of these pains but when he tried to leave the bed, his arms and legs were so stiff that he could scarcely walk. A short time afterwards the skin of the arms and legs showed rose-red patches, somewhat elevated above the normal skin, irregular in shape, hard, thick and numb in sensibility. The face and the trunk were free from manifestations. The scleroderma began at

\* Read before the 40th Annual Meeting of the American Dermatological Association Washington, D. C., May 13 to 15, 1916.

the elbows as hard, round patches, coalescing and forming a round, irregular patch at the radio-humeral joint, and another on the other side, at the ulnar-humeral joint; the skin was œdematous, rose-red in color. The radio-humeral patch proceeded towards the middle of the flexor surface of the arm as a narrow stripe. The seat and the direction of this stripe corresponds exactly to the ramification of the radial and of the median nerves.

At the lower third of the arm, the patches forming a stripe are much more widened, forming a single patch at the place of anastomosis of the various cutaneous nerve branches. A similar fusion of small patches forms an irregular sclerotic spot on the backs of both hands. On the flexor surface of the arms the sclerodermic patches begin at the humeral-ulnar joint, just at the point of exit of the anterior brachial internal cutaneous nerve. Round patches, coalescing, form an irregular stripe which, proceeding towards the hand, reaches the wrists. Here a large patch is formed, somewhat irregular in outline, thick and hard, where anastomoses are formed between the ramifications of the palmar cutaneous branch of the ulnar, with those of the median. The palms are not affected.

The same condition is shown in the legs, from the thigh to the foot. The sclerodermic patches cover nearly the whole anterior surface of the thigh, intermingled with which there are black, pigmented spots, while the posterior surface shows only a few patches. The skin is much more affected at the knee-joint, around the patella, appearing as rose-red, thick, diffuse patches, which are shown also on the anterior surface of the leg, reaching to the foot. At both knee-joints the sclerotic skin is deeply ulcerated, presenting round ulcers, some coalescing and forming long, irregular patches. On the right leg the ulcers begin from the patellar region and gradually extend to the inferior third of the leg. On the left leg the ulcerated patches from the knee-joint run down towards the internal surface of the leg. The ulcers have a thick, hard base, with elevated edges, covered with thick, hard, warty granulations, discharging scanty serum, the whole covered with thick, heavy crusts, formed mostly by epidermic scales. The ulcers are clearly of traumatic origin on a hardened, infiltrated skin, resembling somewhat epitheliomatous ulcers.

A negative Wassermann reaction ruled out syphilis.



FIG. 1.

It is easy to understand that scleroderma is not a local disease, but that it has its origin in a general affection, which can produce disturbances of the greatest importance. The case already described cannot be referred to that variety of scleroderma described by Fischer, as sclero-





FIG. 2.



FIG. 3.

dermia circumscripta lichenoides, which may be nothing else than a kind of lichen planus atrophicus. It cannot even be compared to lichen albus of von Zumbusch, nor can it be grouped with the variety described by Hallopeau, as lichen planus scleroso-atrophicus, which is only a variety of lichen planus. The *leucodermie atrophique* of Millian could probably be shown to have some analogy to our case; but from the clinical symptoms, from the hardness and swelling of the skin and from the histological features, it could never be considered as leucoderma. In the same way, the *kartenblattähnliche* form of scleroderma as described by Unna, cannot be applied to our case, where there was no atrophy but rather thickening and elevation of the affected sclerotic skin.

**ÆTIOLOGY.** In our case the skin began to show alterations together with neuralgic pains of the peripheral nerves. The views of Singer,<sup>1</sup> on the possibility of a disturbance of the internal secretions, seems not quite acceptable in our case. In the case reported by Singer there was myxœdema with scleroderma, and well defined degenerative changes in the thyroid gland.

It may be possible that an affection of the suprarenal glands and the hypophysis, would, according to Mosenthin,<sup>3</sup> produce alterations in the

nutrition of the skin by their disturbed equilibrium. Bloch<sup>3</sup> called attention to the great influence of the internal secretion on the production of leucoderma. Through the quantitative and the qualitative changes of the hormones, an allergic condition follows, which is equivalent and similar to the action of the diatheses, by producing alterations in the reactivity of the skin.

In our case, however, although severe scleroderma together with pigmentation were present, yet there were no symptoms to indicate a disturbed condition of the internal glands. The patient did not have tachycardia, any increased blood pressure, any enlargement of the thyroid, any lymphocytosis, nor any eosinophilia.

In some cases, the pigmentation is connected with a disturbed function of the suprarenal glands. According to Lichtwitz,<sup>4</sup> the pigmentation must be the result of adrenalinæmia, due to an increased function of the suprarenal glands. The adrenalin, when carried to the surface of the skin, is oxidized, precipitated, and the pigmentation would be the discoloration resulting from the products of the oxidation. It is also possible and more probable in the case, that from a spastic contraction of the blood vessels, the coloring matter of the blood is forced out of their tunics, and infiltrates the tissues of the skin.

The hypophysis has been considered as a factor in scleroderma. Strümpell, Wiju, and Rasch<sup>5</sup> believe in a diminution of the function of the hypophysis, while others believe in an exaggerated function. Biedl<sup>6</sup> maintains that a disturbed function, either in excess or in defect, is the result of anatomical alterations in the gland. Huisemann<sup>7</sup> and Wernie have found scleroderma and acromegalia in the same patient, and to-day acromegalia means hyperpituitarism.

Scleroderma has also been ascribed to an affection of the sympathicus, which causes disequilibrium in the secretion of the glands and produces the changes in the skin. Klinger,<sup>8</sup> referring to a case of scleroderma in a man of 45 years, could see nothing else than a high sympathicotonus, which produced disordered secretions.

Cassirer<sup>9</sup> pointed out the association of scleroderma and paralysis agitans, which he considers the result of an alteration in the parathyroids. Lehndorff<sup>10</sup> found tumor of the hypophysis with scleroderma.

In these cases it seems that the blood contains in excess, materials which have vasoconstrictor action. This, however, has not been proved and the only explanation is that adrenalin-like substances are not constantly increased in the blood, but that their increase is only temporary and in alternating spells.

We find that the contention of Touchard<sup>11</sup> is best applicable to our

case. Touchard, although he believes that an intermittent secretion of adrenalin is a symptom of scleroderma, claims that it is not entirely due to affection of the blood-forming glands.

All the disturbances of vasomotor origin, as angioneurotic oedema, acroparæsthesia, erythromelalgia, scleroderma, sclerodactylia, Raynaud's disease, can be considered as related in their ætiological origin. It happens that we see these forms of disease in the same subject, either successively or at the same time, in different degrees of intensity.

It seems, in our case, judging from the degree of hardness of the affected skin and from the manner of onset, with severe peripheral neuritis, that there is some similarity to the case reported by Arning,<sup>13</sup> under the name of erythema perstans pseudoleprosum. In our case the distribution of the scleroderma and the grouping of the patches show clearly the nervous origin of the disease. Substances may have been formed which produce stimulation of the vasomotor centres, which alters the circulation. The process can be assumed to lie in an alteration of the blood vessels, due to vasoconstrictor substances, and the clinical manifestations are the results of an increased tonus of the action of the sympatheticus.

Cybulski,<sup>13</sup> with repeated adrenalin injections, produced alterations in the blood vessels. The alterations are not due to the increased pressure of the blood, but rather to chemotoxic substances, which are pushed into the circulation by the increased hæmodynamic condition. Their action is not limited to the sphere of the blood vessels, but the lymphatics also are affected by the adrenalin. Lewin and Heller<sup>14</sup> found obliteration of the thoracic duct in two cases of scleroderma, which they consequently believed to be the result of a general lymph stasis.

Kaposi, Koebner, Lassar, Unna,<sup>15</sup> Nothhaft<sup>16</sup> and others claimed to have found in scleroderma decided changes in the lymphatic vessels, due to a protracted constriction, which produces hypertrophy of the collagenous tissues. Mosenthin believes that substances with vasoconstrictor action, together with other toxic elements, are capable of injuring the walls of the blood vessels, which in turn cause the disturbance of the skin. The view that the affection of the blood vessels was the cause of scleroderma, began with Vidal and was maintained by Crocker, Bales, Neumann and others. Dinkler<sup>17</sup> and Gaucher<sup>18</sup> do not admit an inflammatory process in scleroderma, but claim that the affection of the small arteries of the skin is the cause of an interstitial inflammation which causes the hardening of the skin.

The relation of scleroderma to the distribution of the cutaneous nerves, in the form of stripes, as in our case, has been already observed



by many authors, as Neumann,<sup>19</sup> Crocker,<sup>20</sup> Taenzer,<sup>21</sup> Arning, Thièrge, etc.

In some cases the distribution corresponded to a group of nerve ramifications proceeding from a spinal nerve (Bruns,<sup>22</sup> Lion<sup>23</sup>). In the same way, in cases of diffused scleroderma there is a tendency to symmetry, but in some cases the affection remains on one side only. In the study of the physiological products of the body, we find that when they are altered, they produce pathological secretions, which, however, are not persistent, but only intermittent and appearing in small quantities. This condition explains the different forms and degrees of the angioneuroses in the same individual.

The protracted contraction of the blood vessels under the influence of a vasoconstriction, and the consequent ischæmia in the area of the blood vessels, together with the injurious influence of the adrenalin-like substances on the tunics of the blood vessels, easily explain the pathological alterations in scleroderma, and their degenerative and chronic inflammatory nature.

Any infection in predisposed individuals may produce scleroderma. The infection disturbs the harmony of the blood-forming glands, either by affecting some of them directly, or, through bacteria, affecting the function of hormones, or by affecting the organs of the circulation directly; or by affecting the central nervous system, thus causing an abnormal production of the hormones. An example is seen in Basedow's disease, which follows amenorrhœa and infectious diseases. It occurs very frequently that nervous affections are associated with scleroderma. Indeed, the constriction of the blood vessels increases pressure and produces congestion, and as a consequence hæmorrhage ensues; while on the other hand, in delicate organs, it may cause ischæmia. The result of the circulatory changes may be sclerosis, atrophy, or a softening or degenerative process. Cybulski, experimenting with repeated injections of adrenalin, found that it caused extravasation in the brain and in the medulla oblongata, and in other organs. Biedl has seen shrinking of the cells of the ganglia and thickening of the ependima of the ventricles, hardening of the pia, degenerative processes of the cord, and lesions of the cells of the ganglia of the sympatheticus.

Nearly all authors agree that one of the exciting causes of scleroderma is a sudden change of temperature, a sudden exposure to the cold. In our case, the patient was caught in a thunder storm, and he remained the rest of the night with his wet clothes on. From this time he began to suffer paræsthesia and gradually the skin of the extremities began to show hardening.



Nieholic, Brück, Andres, Ball, Gintrac and many others have reported cases in which scleroderma made its appearance after an exposure to severe cold. Yet many others, like Besnier and Doyon, Wolters, Pellizzari, Marianelli, etc., have concluded that besides a change of temperature, many and different factors may cause scleroderma.

The idea of toxic elements disturbing the internal secretion was maintained by Schwerdt and Kölle. They believed that in consequence of insufficiency of the mesenteric glands, toxic elements are thrown into the circulation with impairment of the equilibrium of the blood-forming glands. As a consequence, scleroderma would be the result of a disturbance of the internal secretions, with increased tonus in the sympathicus. The central point of distribution through the system of the chromaffines is the hypophysis, and it is very likely that in disturbances of this organ is found the true reason for scleroderma.

If this theory can be accepted, another question arises, how and why the hypophysis is affected. We cannot forget that the most common infections attacking the human system are tuberculosis and syphilis. Syphilitic affections of the hypophysis, resulting from hereditary or from acquired syphilis in the form of diffused interstitial hypophysitis, and of gummata, have already been reported by Simmonds.<sup>24</sup> Tuberculous meningitis is rather a common occurrence, and tuberculous affections of the hypophysis could not be denied.

A chronic affection of the hypophysis can therefore be considered as a predisposing cause, and the sudden change of temperature, as a determining cause in scleroderma.

One of the remarkable features in this case was the occurrence of extensive ulcers in the scleroderma areas of both legs. The ulcers extending from the knee-joint to the lower third of both legs, were thick, elevated, with thick granulations, covered with heavy crusts and epithelium. At first glance they looked like epithelioma, but microscopic examination did not reveal definite characters of new growth. They were considered to be warty, granulating ulcers on a sclerotic skin, very likely resulting from trauma to which the knees and the anterior surfaces of the legs are frequently exposed. Hartzell<sup>25</sup> reported a case of morphœa-like epithelioma, which had been diagnosed as ulcerated morphœa. Radcliffe Crocker and Pernet<sup>26</sup> described a tumor of the consistency of leather, as a neoplastic, yellow plaque, which Pernet later on called morphœaform rodent ulcer. Heidingsfeld<sup>27</sup> reported a case of epithelioma developing upon a patch of morphœa.

Cancer finds a good soil for its development in all tissues which have lost their reactivity. The skin affected with scleroderma, with its

connective tissues hard, infiltrated, and affected by hyaline degeneration, is likely to ulcerate and also to show cancerous changes. Amongst the precancerous conditions, scleroderma is mentioned.

The ulcers were treated with bichloride of mercury, 1 to 2000 solution as a wet dressing, twice daily, and were covered with benzoated oxide of zinc ointment, containing about four per cent. of calomel. The patient was advised to take small doses of calomel, twice a day, and saturated solution of potassium iodide, after each meal. Under this treatment the patient has improved, the ulcers have healed and he has been able to return to his occupation.

From the consideration of this case we can derive the following conclusions:

1. The scleroderma in this case was probably due to peripheral neuritis.
2. The system was affected by a form of diathesis, which had disturbed the equilibrium of the internal secretions.
3. The sudden change of temperature acted as a determining cause.
4. The granulating ulcers were merely an accidental manifestation on the sclerodermatic patches.

#### REFERENCES.

- <sup>1</sup> SINGER. Zur Pathologie der Sklerodermie. *Berl. klin. Wchnschr.*, 1895.
- <sup>2</sup> MOSENTHIN. Ein Fall von Sklerodermie, seine Beziehungen zur inneren Sekretion und Bemerkungen über Ätiologie dieser Erkrankung. *Arch. f. Dermat. und Syph.*, 1913, cxviii, p. 613.
- <sup>3</sup> BLOCH. Diathesen in der Dermatologie. Verh. deutsch. Kongr. f. Inn. Medizin, 1911. (Quoted by Mosenthin.)
- <sup>4</sup> LICHTWITZ. Über einen Fall von Sklerodermie und Morbus Basedow, nebst Bemerkungen über die Physiologie und Pathologie des Sympathikus und der Nebennieren. *Deutsch. Arch. f. klin. Med.*, 1908.
- <sup>5</sup> STRÜMPPELL, WIJU, RASCH. Quoted by Mosenthin.
- <sup>6</sup> BIEDL. Innere Secretion. 1 part, 1913.
- <sup>7</sup> HUISEMANN. Über die Beziehungen von Gefäß- und Blutdrüsen Erkrankungen zur Sklerodermie. *Münch.-med. Wchnschr.*, 1905.
- <sup>8</sup> KLINGER. Ein Fall von Sklerodermie. *Deutsch. med. Wchnschr.*, 1912.
- <sup>9</sup> CASSIRER, R. Die vasomotorischen trophischen Neurosen. Berlin, 1912.
- <sup>10</sup> LEHNDORFF. Ein Fall von Pustulose und Sklerodermie. *Wien. med. Wchnschr.*, 1908.
- <sup>11</sup> TOUCHARD. Quoted by Cassirer.
- <sup>12</sup> ARNING, ED. Ein Fall von Erythema perstans pseudoleprosum. *Arch. f. Dermat. u. Syph.* Pick Festschrift. 1898, xliii, p. 11.
- <sup>13</sup> CYBULSKI. Lehrbuch der Physiologie. R. Tigerstedt. Quoted by Mosenthin.
- <sup>14</sup> LEWIN AND HELLER. Die Sclerodermie; eine monographische Studie. Berlin, 1895.
- <sup>15</sup> UNNA. Die Histopathologie der Hautkrankheiten. Berlin, 1894.

- <sup>10</sup> NOTTHAFT. *Centralbl. f. allgem. Path. u. path. Anat.*, 1898, p. 870.
- <sup>11</sup> DINKLER. *Deutsch. Arch. f. klin. Med.*, 1891, p. 514.
- <sup>12</sup> GAUCHEB, BROUARDEL AND GIRODE. *Traité de med. et de therap., malad. de la peau*, 1895.
- <sup>13</sup> NEUMANN. *Verhandl. d. Wien. dermat. Gesselsch.*, Mar. 6 and Jan. 27, 1897. Quoted by Luthlen, *Handbuch der Hautkrankheiten* (Mracek), 1904, iii.
- <sup>14</sup> CROCKER. *Brit. Med. Jour.*, 1878.
- <sup>15</sup> TAENZER. *Monatsh. f. prakt. Dermat.*, 1894, xiii, No. 2.
- <sup>16</sup> BRUNS. *Monatsh. f. prakt. Dermat.*, xxx, p. 45.
- <sup>17</sup> LION. *Monatsh. f. prakt. Dermat.*, xxxiv, p. 580.
- <sup>18</sup> SIMMONDS. Über syphilitische Erkrankungen der Hypophysis, insbesondere bei Lues congenita. *Dermat. Wchnschr.*, 1914. Festschrift zur Eröffnung des neuen Instituts f. Schiffs und Tropenkrankheiten, p. 104.
- <sup>19</sup> HARTZELL. Morphoea-like Epithelioma. *Jour. Amer. Med. Assn.*, 1909, liii, p. 262.
- <sup>20</sup> CROCKER AND PERNET. *Ikon. Dermat.*, Fas. vi, Tab. xlviii, p. 243.
- <sup>21</sup> HEIDINGSFELD. Morphoeähnliches Epitheliom. *Arch. f. Dermat. u. Syph.*, 1913, cxvii, p. 375.

## DISCUSSION.

DR. PUSEY said he wished to thank Dr. Ravogli for his very instructive and valuable summary of what was now known about scleroderma. He had nothing to add other than to express his appreciation of the paper in that respect. The speaker thought he had seen one or more cases of scleroderma, like that of Dr. Ravogli's, in which there had been a diffuse scleroderma of the extremities, followed by atrophy, in which it had not been possible to demonstrate the disturbance of the hormones.

The speaker said he had also used thyroid extract in scleroderma at the recommendation of neurologists, who seemed to regard it very favorably in getting rid of scleroderma. The speaker said if it was a thyroid disturbance it was one which in a good many cases could not be relieved by thyroid extract.

DR. BRAYTON said that Dr. Osler had stated that thyroid extract should be used in every case of scleroderma. The speaker had met with six cases of widely diffused scleroderma in adults, all of whom had died of the disease between their thirty-fifth and fiftieth year. The patchy forms were not uncommon in clinics and in private practice. One notable case, a woman of forty, had the linear form, commencing at the ankles, passing up into and invading the mucous membrane of the vagina, and ultimately, after ten or twelve years, resulting in death. An adult male, fifty-six years of age, had patches averaging two to six inches in diameter over the trunk and the legs. A large patch in the popliteal space produced a false ankylosis, which was relieved by splints, massage and ointments.

Very notable was the case of a girl, eight years old, suffering from tonsillar infection and three weeks' resulting fever. During this time the skin became so hardened from the scalp to the toes that it was impossible to pinch it up in any portion of the body. Her appetite was immense as she convalesced, eating four or five meals a day and active in playing about the hospital grounds. After three months resolution began and her condition was normal by the end of five or six months. The patient was found healthy four months after her recovery.

One case still under observation, an otherwise healthy male, a barber and bartender, had suffered with acute scleroderma, involving all areas except the upper and lower extremities below the knees and elbows. No treatment had



been of any apparent avail. His age was about thirty-two. His greatest difficulty was dyspnoea, due to indigestion with formation of gas, preventing diaphragmatic breathing; his chest was as hard as a board. Except the first mentioned, the writer had known no case of widely diffused scleroderma to recover.

DR. HARTZELL said that morphœa-like epithelioma was an epithelioma resembling in appearance morphœa and not a morphœa which had become epitheliomatous.

DR. WISE said that the excellent clinical description and photographs presented by Dr. Ravogli led him to consider the question, whether the subject of the report represented an instance of acrodermatitis chronica atrophicans, associated with the usual sclerodermatous lesions on the extremities. He thought that the presence of syphilis in the patient was a mere coincidence and that the two affections—cutaneous atrophy and syphilis—were unrelated and ætiologically independent, as was the case in an instance of acrodermatitis atrophicans which he had reported about two years ago. In over two hundred cases of the disease, collected from the literature by Finger and Oppenheim, not one could be traced to syphilis as the causative agent. He also called attention to the peculiar "ulnar band" of scleroderma on the forearms of Dr. Ravogli's patient—a feature peculiar to nearly all cases of acrodermatitis atrophicans.

DR. RAVOGLI said that in regard to what Dr. Pusey had spoken about, namely the administration of thyroid extract, these cases usually did not give results at all. He had obtained better results from the use of potassium iodide and calomel internally. In regard to what Dr. Hartzell had said about morphœa-like epithelioma, he had seen an epithelioma develop in a patch of morphœa or circumscribed scleroderma, with all the characteristics of an epithelioma, but this man had received many applications of X-ray on the sclerodermic patch. He could not say, in regard to the scleroderma, whether the morphœa had anything to do with the production of the epithelioma, or if the repeated applications of the X-ray had been the cause of the change in the epithelium, which produced the epithelioma. The speaker thought that acrodermatitis chronica atrophicans could fit very well for the beginning of the disease, but there was no doubt that it was a case of scleroderma. In regard to the ætiology relating to syphilis, he could say that the Wassermann reaction had been perfectly negative, and this man had denied any possibility of syphilis. However, the parents died of a disease which could not be defined and he entertained the idea that they died of a tuberculous infection.

Dr. Ravogli said that perhaps his case had been of a tuberculous origin, and the cause of the skin condition came on after the sudden change in temperature and the cold had produced neuritis, with inflammatory processes, which were followed by scleroderma.



## THE FOLLICULAR TYPE OF ECZEMA SEBORRHÆICUM.\*

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REALIZING fully that the old adage, "There is nothing new under the sun," contains much truth, it is with some trepidation that one ventures a supposedly fresh or original observation. Still there are certain things, not in themselves new, which have escaped detection. It is one of these overlooked facts that prompts these brief remarks.

For a number of years past I have observed, from time to time, a peculiar clinical type of seborrhœic eczema. So far as my knowledge extends, which includes a reasonably careful survey of the literature, this variety has not heretofore been recorded.

It seems almost certain, after attention has been called to this follicular expression of eczema seborrhœicum, that many dermatologists, especially those in attendance upon large clinics, will recall having seen such cases. The type now to be described was first noticed in its localized form; later it was discovered that under certain conditions favorable for coalescence and spreading, it can become diffuse.

The localized or patch form occurs commonly on the chest and upper back, as does the ordinary type of seborrhœic eczema; it is extremely rare on the face, but has been noticed on the scalp, along the hair line, both in front and over the temporal regions.

Typical lesions of this variety, as seen on the chest or back, are patches that range in size from a silver dime to a half dollar; they are brownish-red in color, about the same as the usual lesion of seborrhœic eczema, and are made up of a great number of inflammatory follicles, situated very close together, but always discrete. These follicles are slightly pink and enlarged, with dilated mouths; in each opening and around it, is seen a piling up of small, greasy scales, making a tiny cone; in fact each individual follicle is a miniature lesion of seborrhœic eczema. The grouping of a large number of such minute lesions makes up a patch of the so-called follicular type.

\* Read before the 40th Annual Meeting of the American Dermatological Association, Washington, D. C., May 13 to 15, 1916.

Over the whole area the evidence of seborrhœa is apparent, recognized by the usual slightly oily appearance. When this follicular type becomes diffuse, it will be observed that the mild thickening, seen in the local patch, has materially decreased; the infiltration seems to thin out as spreading takes place.

In the diffuse form, the eruption spreads gradually over the chest and back, until practically the whole upper half of the body is affected, with the exception of the face. At all times, however, the follicles stand out quite clearly, and the general appearance is one of a diffuse follicular disease of a seborrhœic nature, associated with a moderate amount of furfuraceous scaling.

In an exaggerated case of long standing, the integument is rough to the touch, and in a mild sense takes on the nutmeg-grater appearance. It is this type of case that bears some resemblance to a beginning lichen ruber acuminatus. There is, of course, no possibility of confusing the lesion in question with a typical or classical case of lichen ruber acuminatus, but the imagination need not be too greatly taxed in thinking that the earliest stage of the latter disease may begin in this way.

In the very first case of the diffuse form that came under observation, early lichen ruber acuminatus was seriously considered. After long study and many weeks of inefficient therapeutics, I was finally able to arrive at the proper diagnosis.

A brief history of this first patient will be detailed.

#### CASE REPORT.

The patient was a young woman, aged 23 years. She was an American by birth, and her general health was exceptionally good. Her family and past history had no bearing on the case, and the skin affection was the only serious malady that she had encountered. The duration of the cutaneous disease was 10 years. It was first noticed when she was 13 years old, and according to her statement, began on the chest.

On examination, the entire upper half of the body, from the base of the neck to the waist line, back and front, was covered with a follicular eruption. The follicles were discrete, very slightly inflamed, and the whole area was covered with a fine, furfuraceous scaling. The skin was slightly greasy and had the nutmeg-grater appearance; the neck was free; the face was fat, distinctly greasy and exhibited a few scattered acne papules. The scalp contained an abundance of scales, which were somewhat dry, as compared to the body lesions.

The patient was treated for two or three months with the usual remedies for seborrhœic eczema,—salicylic acid, sulphur, resorcin, etc.,—with some improvement; but no marked impression was made on the

eruption. An indirect way of reasoning made it seem rational to use the acne vaccine. This seems somewhat far-fetched or illogical, and perhaps requires some explanation, though I am making no excuse for it. Whether the good result, ultimately accomplished in the case, was in a measure due to the vaccine, or whether it was entirely due to the continued use of the external remedies, is a question.

There is much confusion in regard to the microbic theory of seborrhœa, acne, etc. It has been stated that the spores of Malassez and the micrococcus of Unna are the same, and the *Bacillus acnes* of Gilchrist and the micro-bacillus of Sabouraud are identical. Reasoning from the premise that Sabouraud's contention is true, that there can be no acne without an antecedent seborrhœa, then acne is secondary to seborrhœa. Following the argument of this author still further, that the comedo is a cocoon, the basis of which is his micro-bacillus, and assuming that this bacillus and the so-called acne bacillus are the same, then the stock vaccine on the market containing the acne bacillus may be nothing more than the micro-bacillus of Sabouraud.

If these hypotheses are true, then the acne vaccine should be beneficial in eczema seborrhœicum, as this variety of eczema occurring on the body surface, is seborrhœa, associated with mild inflammation, practically the old seborrhœa corporis of Duhring.

A weekly injection of three to five million dead bacilli was administered to the first case of the diffuse type, and the eruption disappeared in about two months.

The combined treatment was given to a second case; it consisted of vaccine and also external remedies, and the patient recovered in 2½ months. To a third case the external remedies alone were given, with the intention of beginning the vaccine later, but the patient stopped his visits at the clinic, consequently our observations ceased.

It is not the purpose of this paper, nor is it desirable, to go into details of treatment; the therapeutic measures are merely outlined to form one link in the chain of proof, that the disease under discussion has seborrhœa as its foundation.

It was known during the entire time, that we were dealing with eczema seborrhœicum, when the cases of the localized type began to present themselves, still we were unfamiliar with the type. When the diffuse variety first came under observation, we did not at first realize that we were working with seborrhœic eczema, therefore the diagnosis was difficult. Now that we recognize the type, the diagnosis is comparatively easy.

The only references discovered which seem to have any bearing on



the subject are three in number. The first is a short one in a small text book by Max Joseph—*Lehrbuch für Hautkrankheiten*, 7th edition, page 118.

The writer, in the chapter on seborrhœic eczema, calls attention to the fact that there are occasional forms of seborrhœic eczema in which the inflammatory process is localized about the follicles, and further states that these forms take a mid-position between eczema and psoriasis. When this part of his article on eczema was first read, it seemed as if he were referring to the same type that I have in mind, but upon further perusal in regard to the mid-position of the type between eczema and psoriasis, I felt quite sure that he was speaking about an entirely different form, as the type observed by me has absolutely nothing to do with psoriasis. If I am interpreting this reference correctly, it seems to refer to that type of seborrhœic eczema, where the lesions are so small that it resembles the punctate variety of psoriasis.

Darier, in his *Précis de dermatologie*, page 374, under the title, "follicular eczema," speaks of three stages: acute, subacute and chronic.

The description of the subacute form bears some resemblance to the lesion already described, though he concludes the section by saying that coalescence causes the formation of the well-known patches of eczema *figurées*. In the follicular type under discussion, when this fusion of patches takes place, it does not form the figured eczema.

Brocq, in his *Traité élémentaire de la dermatologie pratique*, Paris, 1907, page 800, speaks of a peripilous form. The description in parts approaches very closely to the lesion that I have described, though he concludes by saying that it is the forerunner of Malcolm Morris's eczema folliculorum. Follicular seborrhœa, as it has been observed by me, has no kinship with the follicular eczema of Morris.

#### SUMMARY.

1. Follicular seborrhœic eczema is of two varieties—local and diffuse.
2. It is not frequently observed; the local form is fairly common in a large clinic; the diffuse is rare.
3. The disease is practically confined to the upper half of the body, mainly the trunk.
4. It is always associated with pityriasis capitis; this is moderate in the local form, but quite abundant in the diffuse variety.
5. An oily seborrhœa of the face is a frequent concomitant symptom in the diffuse variety; this symptom, however, is not always present.
6. It has been the habit in the clinic to speak of this skin affection



PLATE I.—To Illustrate Article on Follicular Eczema Seborrhœicum,  
by WILLIAM B. TRIMBLE, M.D.



FIG. 2.  
Follicular seborrhœic eczema; localized form.



FIG. 1.  
Seborrhœic eczema; ordinary type.





FIG. 3.  
Follicular seborrhœic eczema; localized form.



FIG. 5.  
Follicular seborrhœic eczema; localized form, becoming diffuse.



FIG. 4.  
Follicular seborrhœic eczema; localized form; large patch.







FIG. 7.  
Follicular seborrhœic eczema; diffuse form.



FIG. 6.  
Follicular seborrhœic eczema; diffuse form.



as the follicular type of seborrhœic eczema, but in view of the fact that it is more properly a folliculitis, rather than an eczema, it seems to me the title, "folliculitis seborrhœica," would be more appropriate.

#### DISCUSSION.

DR. GILCHRIST said, in reference to vaccine therapy, that he had tried it some years ago, particularly the *Streptococcus albus*, which had been given empirically, and he had gotten some very startling results in some cases. It had been given in doses of three to five hundred million in a man with seborrhœic eczema, which cleared the case up in ten days. The speaker said they had not always been able to support that treatment, the effects at first being marked, but not so good later. His assistant had used vaccines in a number of private cases and that particular form of disease seemed to yield best to the *Streptococcus albus* vaccine. In reference to the *Bacillus acnes*, he had a number of private cases of persistent alopecia, the hair falling out, associated with seborrhœa, the same thing Dr. Trimble had spoken about. The application of vaccines for alopecia had not encouraged the speaker much by its results, having had no effect upon these cases whatever.

The speaker said he thought he had tried it in about twenty cases, in which it had not been beneficial. He had also tried the *Bacillus acnes* ointments for seborrhœa, which Dr. Trimble mentioned, which seemed to have some beneficial effect, but the speaker used a very strong ointment, about ten per cent. It was, however, so expensive an ointment, that he had given up its use.

DR. HEIMANN said that Dr. Trimble deserved credit for first having isolated this variety of the disease and having divorced himself from the idea of seborrhœal eczema. The speaker said it was perfectly proper to speak of seborrhœa and qualify it as one wanted to, but one was speaking of a separate clinical entity, notwithstanding when seborrhœal dermatitis or eczema was employed. This particular type, of which Dr. Trimble had spoken, was a hyperkeratotic folliculitis and the speaker had seen photographs of the same which had suggested nothing of eczema. The speaker said he was glad to have had this point brought out at last, and recognized by dermatologists.

## FISSURE OF THE LIP: A DEVICE FOR ITS TREATMENT.

BY WILLIAM ALLEN PUSEY, M.D., CHICAGO.

IT may hardly seem worth while to offer a suggestion for the treatment of so trivial a condition as a fissure of the lip, and yet these lesions are annoying and often very persistent. I have had come to me more than one case of fissure of the lip that had persisted in spite of one sort of treatment or another for several months, and I recall two cases that were simple fissures of the lip and nothing else, that had persisted for more than two years. These experiences make me feel that their treatment is not always entirely satisfactory. Of course, they can be cured, when they have not gotten deep, by frequently greasing the lips, but this treatment requires that the ointment be put on several times a day, so that the lip will not dry out and crack between applications.

The reason that fissures are rebellious to treatment, of course, is that they are kept open—as they are formed—by the movements of the lips. To heal them promptly it is only necessary to apply a fixed dressing to prevent this splitting, and the device I suggest is the application of a piece of adhesive plaster on the vermilion border of the lip across the fissure, so that it will prevent the spreading of the lip at the fissure. Such an adhesive plaster dressing, if well applied, will adhere for from twelve to twenty-four hours. It then becomes loosened by the saliva. The patient should be instructed to apply immediately a new strip when the old one becomes thoroughly loosened. For the same purpose I formerly used a little dressing of gauze and collodion, but the adhesive plaster is easier to apply and adheres longer.

It is surprising how much relief this dressing gives; with it the individual can talk, laugh, cough, sneeze or eat without the inevitable cracking of the lip. The application of such a dressing for even twelve to twenty-four hours will allow most fissures to heal sufficiently to be able to withstand the movements of the lips, and so go on to complete healing without further dressing. A few days' application of such a dressing will cure the most persistent fissure.





ELEPHANTIASIS NOSTRAS; REVIEW OF THE SUBJECT WITH  
REPORT OF A CASE.

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ACCORDING to the literature, elephantiasis nostras is a relatively rare condition as found in this country; in certain parts of Europe, however, it is less rare. For the most part the cases that have been reported were observed in England and France, while a smaller number have been reported by German observers. Farvarger,<sup>1</sup> however, thinks the condition extremely rare in Austria.

The first case to be reported was that of Kennedy,<sup>2</sup> in 1819. This author had observed a case in Madras several years previously with enormous enlargement of the left arm. A history was obtained of severe injury which became secondarily infected, followed by recurrent attacks of erythema and progressive enlargement of the part. In the same year Chevalier<sup>3</sup> reported a case with permanent enlargement of the leg, following an attack of phlegmasia alba dolens. Since that time cases have been reported in the English literature by Southam,<sup>4</sup> Frances,<sup>5</sup> MacGregor,<sup>6</sup> Whitehead,<sup>7</sup> Barber,<sup>8</sup> Daniels,<sup>9</sup> McDonagh,<sup>10</sup> Adamson,<sup>11</sup> Pringle,<sup>12</sup> Sequeira,<sup>13</sup> and others.

In the American literature, Busey<sup>14</sup> published two monographs, with a review of a large number of cases of all types, having particular reference to the part lymphatic occlusion played in the production of elephantiasis. More recently cases have been reported by Allen,<sup>15</sup> Griffith,<sup>16</sup> Hastings,<sup>17</sup> Shattuck,<sup>18</sup> Winthrop,<sup>19</sup> Thompson,<sup>20</sup> Heidingsfeld,<sup>21</sup> and Robinson.<sup>22</sup>

The following case was recently observed in the Department of Dermatology and Syphilology of the University of Michigan.

## CASE REPORT.

The patient, an American-born girl, 19 years old, entered the University Hospital, complaining of enlargement of the left arm and hand. Her mother was born in Norway and her father in Finland; both are living and in good health. She has had the usual children's diseases, with good recovery. Eleven years ago she was vaccinated, following which she was in a hospital for three months with a very sore arm. At the site of the vaccination a large ulcer developed, and at the same time the arm became greatly swollen, with a wide zone of erythema surrounding the ulcer. The ulcer healed, however, at the end of three months, and both the erythema and swelling entirely subsided. Eighteen months ago she had an attack of appendicitis with operation, which was followed by

a rapid and uneventful recovery. Menstruation began at the age of fifteen years and has been regular.

The present trouble began about fourteen months ago, when she noticed that the left hand began to swell, without any previous trauma. The skin was slightly reddened and felt warm to the touch. The swelling gradually progressed up the arm until the elbow was reached. At first there was no pain associated with the swelling, but later pain occurred in the fingers, elbow and shoulder. The erythema recurred at short intervals; the swelling, however, persisted from its inception, and did not subside to any noticeable extent between the attacks of erythema. Only a short while after the swelling appeared, it was noticed that sensation was slightly decreased in both the arm and hand. At the same time the arm became mottled in appearance.

The patient is a very tall young woman of slender build. Her general appearance is that of a healthy young woman. The scalp shows a mild seborrhœic dermatitis. The pupils are equal and react to light and accommodation. The skin of the face and body shows a marked vasomotor disturbance while the patient is being examined. The mucous membranes, glandular system and spleen are negative. Physical examination is negative. Wassermann negative. Urine negative. Blood count normal.

The left upper extremity shows a diffuse symmetrical enlargement beginning at a point six inches below the achromion process when measured over the shoulder. From this point the normal dimensions gradually increase until the hand is reached, where the greatest enlargement is observed. It stops very abruptly, however, at the distal ends of the first phalanges, and from this point the fingers emerge, normal in size, from the pouch-like enlargement (see Figs.). The skin over the upper part of the arm is practically normal, and shows no distinct thickening; however, as the forearm is approached the swelling appears more pronounced, and there is definite thickening of the skin, which increases as the hand is reached. Over the back of the hand the swelling is very marked, giving it a "puffy" appearance. The skin over this region, as compared with that of the other hand, is about twice as thick, is much firmer, and is distinctly





dry and rough to the touch. While greatly thickened, it is not fixed to the underlying structures. The skin over the fingers is firmer, and very firmly attached to the deeper structures, feeling almost sclerodermatous. Over the middle and forefinger especially, there are numerous small nodules, which are boardlike in their firmness and give one the impression of fibroid tumor.

The entire arm is of a dusky red color, interspersed with small depigmented spots, giving it a mottled appearance. In these lighter areas there is almost complete anaesthesia to pain. The patient, however, exhibits a somewhat decreased sensation over the entire body. The epidermis is roughened and covered with a slight scaliness. The hair follicles are depressed, and in places the skin is thrown into minute folds. Both on the back of the hand and on the palm there are numerous wart-like lesions, varying in size from a pinhead to that of a split pea, having the color of the surrounding integument. When incised, a small amount of lymph is poured out from the incision.

#### HISTOPATHOLOGY.

For pathological study a biopsy was done, one specimen being taken from the back of the hand, including a warty growth, while the other



was taken from the finger where the fibrosis was most marked. The tissues were fixed in formol and alcohol, imbedded and cut in paraffin. Stains employed were hæmatoxylyn and eosin. Unna's polychrome methylene blue, orcein, both neutral and acid, and Pappenheim's plasma cell stain.

The epidermis shows only slight changes, a slight thickening being noted, particularly in the sections from the finger. The horny layer is about twice as thick as normal, loosely arranged, and in the upper layers there are a few unfinished horn cells. The rete has a slight increase in number of cells in most places, while in others there is a pressure atrophy. There is neither inter- nor intracellular epidermal oedema, and with the exception of the slight hyper- and parakeratosis, the individual cells of the epidermis appear to be perfectly normal.

The corium is the site of very marked pathological changes, the most striking of which is a tremendous increase in collagen. This is normally placed but greatly hypertrophied, being thrown into large bundles and whirls, and extending so far into the depths of the cutis as to replace much of the subcutaneous fat. Around the deeper blood vessels and sweat coils it shows a decided myxomatous and hyaline degeneration. Mast cells are extremely numerous, and seem to be more in evidence where the collagen has undergone the greatest degree of hypertrophy,—that is, in the deeper portions of the corium. These cells are pressed out into almost twice their normal lengths, being situated between the collagen bundles. In places, however, where pressure is exerted from different directions, they have assumed polygonal shapes. The papillæ are flattened out, and are rather far apart. The elastic tissue is decidedly decreased in amount. In the sections studied, hair follicles and sebaceous glands were lacking. There is an apparent increase in the sweat coils.

The blood vessels show some very interesting changes, the most marked of which occur in the arteries. The larger arteries show marked thickening as a result of proliferation of the endothelium, together with an increase in the thickness of the media. In places this thickening has progressed to such a degree that the larger arteries have very narrow lumina, while the arterioles and capillaries show typical obliterative endarteritis. A similar change, but to a lesser extent, has taken place in the media of the veins, with but little change in the intima. The walls of the larger veins are sclerosed to the extent that they remain patent. Around all of the vessels there is a marked infiltrate, which for the most part consists of small round cell lymphocytes, with a good many polymuclear leucocytes and some mast cells. The mast cells, however, are no more prominent here than they are throughout the entire section. There are no plasma cells present. The lymph channels are markedly dilated, but show no appreciable thickening. The dilatation is perhaps more marked in the upper part of the corium. With Unna's polychrome methylene blue, cocci were demonstrated in small clumps around the vessels, just beneath the epidermis.

In arriving at a differential diagnosis in this case, three possibilities were considered: 1, Leprosy; 2, Acute scleroderma; 3, Elephantiasis nostras.

In considering the diagnosis of leprosy there were several factors which favored it. In the first place there was the general appearance of the skin, the mottling being particularly common in the maculo-



anæsthetic form of leprosy, while the anæsthesia was also suggestive. The nodules on the fingers, taken into consideration with the Finnish parentage, were again suggestive. Against this diagnosis was the localization without any other involvement, the absence of enlargement of the ulnar nerve, the partial instead of complete anæsthesia, the relatively small amount of pain, and the short duration with such progressive enlargement. These factors alone sufficed to rule out that diagnosis, which was later borne out by the pathological findings.

With regard to acute scleroderma, this condition, according to Stelwagon,<sup>23</sup> is ushered in by a more or less œdematous infiltration with or without constitutional symptoms. The skin is tense and glossy, and in some instances may pit on pressure. The integument rapidly becomes hard and fixed to the underlying structures, while the œdema rapidly disappears. As soon as the œdema has disappeared the glossiness is replaced by a harsh, slightly pigmented epidermis, covered with a slight scaliness. In some instances there are small warty outgrowths present, especially when the lower extremity is involved.

It can readily be seen that some phases of the case reported herein are similar to acute scleroderma; however, there is fixation only over the fingers, while other portions of the skin are freely movable. The hand and arm remain greatly swollen, the warty growths when incised contain lymph, and the recurrent attacks of erythema are all factors against such a diagnosis. Again the pathological picture clearly rules out such a possibility.

The ætiology of elephantiasis nostras was not definitely known until Sabouraud<sup>24</sup> published the results of his work in 1893. In a series of five cases he was able, by scarifying the skin during an erysipelalous attack, and culturing the blood and serum thus obtained, to demonstrate pure cultures of streptococci. All cultures taken between attacks, on the other hand, remained sterile. Since his work was published there has been much speculation as to whether tropical elephantiasis might not also be of bacterial origin. Prout<sup>25</sup> has been one of the champions of this idea, and states that in his opinion both the sporadic and endemic forms of elephantiasis are due to the streptococcus. Dubruel<sup>26</sup> seems to agree with Prout, as he concludes, after several years' study in the tropics, that the tropical form should be more closely allied to the sporadic form, and considered contagious during the erysipelalous attacks. He reached this conclusion after examining a number of the inhabitants of the Island of Moorea, where about 12 per cent. of the entire population are afflicted with this malady. He was able to demonstrate the filaria in only one case, while in many he found the strepto-

coccus in pure culture or in one or two cases associated with staphylococci. Powell<sup>27</sup> and Megaw<sup>28</sup> both report similar results. While working in Bombay, Powell was unable to find filaria in a single one of seven cases afflicted with elephantiasis. On the other hand, he found 5 per cent. of a large number of the inhabitants examined to be infected with filariasis who were free from elephantiasis. Megaw examined 100 prisoners, three of whom had elephantiasis. Fifteen of the entire number were found to be infected with filaria, while all of the cases of elephantiasis were negative to filaria on repeated examinations. Manson<sup>29</sup> still holds to his view that filaria is the essential factor in the production of the tropical type, explaining the presence of bacteria in the blood stream, by the assumption that the filaria, by injuring the lymph vessels, predisposes to bacterial infection, the latter causing the lymphangitis and fever.

Disregarding the tropical type, it is definitely established that a majority of the sporadic cases are directly caused by the streptococcus. McDonagh<sup>10</sup> believes, however, that syphilis may also be a direct cause, and cites a case to prove his point. The patient had a non-ulcerating tertiary lesion on the scrotum which was followed by elephantiasis. After very careful search he concludes that streptococci are not present, and that the condition is caused by syphilis. He also cites seven cases reported by Frances<sup>5</sup> and one by Adamson,<sup>11</sup> where the patients had luetic lesions followed by elephantiasis. In each of Frances' cases there were ulcerations which were the probable portals of entry for the streptococci. On the other hand, an abrasion is not necessary, as many cases occur spontaneously, according to Sabouraud.<sup>24</sup>

The aetiology, while definitely agreed on by all, has been substantiated by very few. Sabouraud, as previously referred to, did the initial work in demonstrating the streptococcus of Fehleissen in his cases. Most observers who have reported cases since that time agree that their cases are undoubtedly of streptococcic origin, but they have failed to make either pathological or bacteriological studies. The sections studied in my case were biopsied during an attack of erythema and showed numerous cocci. Shortly afterwards, treatment was instituted and the erythema rapidly disappeared. At this time, cultures were taken which remained sterile. This finding agrees with that of Sabouraud,<sup>24</sup> inasmuch as all of his cultures remained sterile when taken during the non-erythematous period. The organisms found in the sections were in clumps, but occasionally a very short chain could be seen, consisting of from two to three cocci. For the most part they were seen just beneath the epidermis, situated around the blood vessels and lymph channels, and especially where the infiltrate was most marked.

The symptomatology of elephantiasis nostras, according to Brocq,<sup>30</sup> is characterized by recurrent attacks of erythema of the affected part. In some instances the initial attack is severe, and associated with general malaise, anorexia and fever. There is a marked œdema with a definite lymphangitis, while the neighboring lymph glands are enlarged and painful. The inflammatory reaction of the skin subsides within a few days to a few weeks; the œdema, however, tends to persist. The attacks recur at frequent intervals, until finally the œdema persists from one attack to another. In the mean time there has been a marked hypertrophy of the connective tissue and true elephantiasis is established. In many instances, however, as in the case reported, the constitutional symptoms are lacking, and only the œdema with the recurrent erythema is noticed.

Most of the cases reported have had recurrent attacks of erythema. A few have had severe attacks, while a majority have had mild ones, and still others have been so mild as to be scarcely noticeable. Daniels<sup>9</sup> is the authority for the statement that elephantiasis can occur after a single attack of erythema, after repeated attacks, or without erythema at all.

Pain seems to be the second most constant symptom, varying between wide limits as to its severity. In the cases reported by Southam,<sup>4</sup> Bryk<sup>31</sup> and Whitehead<sup>7</sup> it was extremely severe. In Southam's case it was necessary to keep the patient continually under the influence of opiates. In contrast to this, pain was a mild symptom in the cases of Chevalier,<sup>3</sup> Kennedy,<sup>2</sup> Jackson,<sup>32</sup> Thompson,<sup>20</sup> Robinson,<sup>22</sup> Breakey,<sup>33</sup> and others. Sabouraud<sup>24</sup> states that it was absent in his cases. While pain is usually an early symptom and associated with lymphangitis, it may occur late in the disease, and when present is usually constant and of a dull, aching character. A probable explanation for this lies in the fact that the connective tissue has hypertrophied to such a degree that the nerve endings are pressed upon. In my case the pain in the fingers did not appear until the sclerosis was very marked, and the above explanation seems easily plausible.

The general pathological picture in the writer's case conforms to that generally accepted as typical. A few important findings, however, differ materially from those of other observers. In the first place, plasma cells are described by Unna<sup>34</sup> as being present in large numbers, situated around the blood vessels, while mast cells are numerous but not abundant. In our sections plasma cells were practically absent while mast cells were very abundant. Again, the elastica was decidedly decreased, which has not been found in the experience of most observ-



ers, but emphasized by Unna as being very apparent in his experience.

There has been much discussion as to the primary pathological change in the production of elephantiasis. It was thought by Neiden,<sup>35</sup> Virchow,<sup>36</sup> Winiwarter<sup>37</sup> and others that the lymphatics were first involved, leading to stasis, œdema and hypertrophy. Cohnheim<sup>38</sup> after extensive experiments, proved that lymphatic obstruction alone could not produce stasis and œdema, but that there must be a hindrance to the outflow of venous blood to produce these changes. Unna<sup>34</sup> states that while stasis is undoubtedly present, according to all experimental histology, we must seek the cause in the veins rather than in the lymphatics. He quotes Winiwarter as describing thrombosis of the veins, but not regarding the fact as of significance in the production of stasis. It is very evident, in the writer's case, that the blood vessels were primarily involved, as is evidenced by the marked thickening of their walls, the endothelial proliferation, and the extensive infiltrate surrounding them. The lymphatics, on the other hand, are markedly dilated, but show no appreciable thickening; however, there is some infiltrate surrounding them.

The treatment instituted in this case was baking the hand and arm in an arthritis oven, for thirty minutes daily, followed by vigorous massage with petrolatum. The patient was given weekly intramuscular injections of antistreptococcus serum. Under this treatment the erythema disappeared, and the arm and hand had reduced about one-third in size when the patient left the hospital.

#### CONCLUSIONS.

1. A large majority of the cases of elephantiasis nostras are due to the streptococcus of Fehleissen.
2. The primary changes are in the blood vessels rather than in the lymphatics.
3. The secondary changes are lymph stasis, œdema, a marked hypertrophy of collagen with an infiltrate of small round cells and some polynuclear leucocytes.
4. Leprosy and acute scleroderma are to be considered in the differential diagnosis.
5. The streptococcic origin of the disease suggests that the local measures might well be augmented by antistreptococcic serum in the treatment of the disease.

It is with pleasure that I acknowledge the kindly criticism as well as the able assistance rendered me by Prof. Udo J. Wile in the preparation of this paper, and the departmental facilities he placed at my disposal.



## REFERENCES.

- <sup>1</sup> FARVARGER. Demonstration of a Case of Elephantiasis Nostras before the Wiener Gesellschaft der Aertze. Abstract in *London Lancet*, 1902, p. 127.
- <sup>2</sup> KENNEDY. Abstract by Busey, *New Orleans Med. and Surg. Jour.*, 1878, p. 529.
- <sup>3</sup> CHEVALIER. Abstract by Busey, *Amer. Jour. Obstet.*, 1877, x, p. 18.
- <sup>4</sup> SOUTHAM. An Extreme Case of Elephantiasis of the Lower Limb. *Brit. Med. Jour.*, 1902, p. 1115.
- <sup>5</sup> FRANCES. Cases of Elephantiasis Associated with Tertiary Syphilis. *Brit. Jour. Dermat.*, 1894, p. 225.
- <sup>6</sup> MACGREGOR. *Brit. Med. Jour.*, 1898.
- <sup>7</sup> WHITEHEAD, W. Remarks on Cases of Lymphangiectasis with Enormous Overgrowth of Cutaneous and Subcutaneous Structures. *Ibidem*, 1902, p. 757.
- <sup>8</sup> BARBER, H. A Case of Sporadic Elephantiasis. *London Lancet*, 1909, p. 1497.
- <sup>9</sup> DANIELS, C. W. Lymphatic Diseases of the Tropics. *Brit. Med. Jour.*, 1908, p. 1359.
- <sup>10</sup> McDONAGH. Case Report of Syphilitic Elephantiasis of the Scrotum. *Brit. Jour. Dermat.*, 1912, p. 24.
- <sup>11</sup> ADAMSON. Elephantiasis Associated with Tertiary Syphilis. *Ibidem*, 1910, p. 161.
- <sup>12</sup> PRINGLE, J. J. Case of Elephantiasis of One Arm. *Ibidem*, 1910.
- <sup>13</sup> SEQUEIRA, J. H. Elephantiasis of the Lip. *Ibidem*, 1911, p. 57.
- <sup>14</sup> BUSEY, SAMUEL C. Occlusion and Dilatation of the Lymphatics. *New Orleans Med. and Surg. Jour.*, 1876, No. 3-1878, No. 8, inclusive; and *Amer. Jour. Obstet.*, 1877-1878.
- <sup>15</sup> ALLEN, C. W. Elephantiasis Arabum. *Internat. Clinics*, 1897, iv, p. 340.
- <sup>16</sup> GRIFFITH, J. D. A Case of Elephantiasis of the Lower Extremity Only. *Kansas City Med. Index*, 1894, p. 375.
- <sup>17</sup> HASTINGS, T. W. Elephantiasis Non-Parasitica. *Amer. Jour. Med. Sci.*, 1906, p. 397.
- <sup>18</sup> SHATTUCK, G. C. Three Cases of Sporadic Elephantiasis of the Lymphatic Type. *Boston Med. and Surg. Jour.*, 1910, p. 107.
- <sup>19</sup> WINTHROP, G. J. A Case of Sporadic Elephantiasis. *Jour. Amer. Med. Assn.*, 1911, p. 1502.
- <sup>20</sup> THOMPSON, G. Elephantiasis Non-Parasitica. *Med. Record*, 1911, p. 211.
- <sup>21</sup> HEIDINGSFELD. *Amer. Jour. Urol.*, 1912, p. 263.
- <sup>22</sup> ROBINSON, D. O. Sporadic Elephantiasis. *Jour. Cutan. Dis.*, 1913, p. 573.
- <sup>23</sup> STELWAGON. Diseases of the Skin. 1914. Saunders and Company, Phila.
- <sup>24</sup> SABOURAUD. Sur la parasitologie de l'elephantiasis nostras. *Ann. d. dermat. e. d. syph.*, 1892, pp. 592-629.
- <sup>25</sup> PROUT. *Brit. Med. Jour.*, 1908, p. 1364.
- <sup>26</sup> DUBRUEL. Cited by Shattuck, G. C. Etiology of Elephantiasis. *Boston Med. and Surg. Jour.*, 1910, p. 718.
- <sup>27</sup> POWELL, S. A. *Brit. Med. Jour.*, 1908, p. 1364.
- <sup>28</sup> MEGAW, J. W. D. *Ibidem*.
- <sup>29</sup> MANSON. Tropical Diseases, 4th ed. 1908.
- <sup>30</sup> BROcq. Dermatologie Pratique, 1907, i.
- <sup>31</sup> BRYK. Cited by Busey, *New Orleans Med. and Surg. Jour.*, 1878, p. 523.
- <sup>32</sup> JACKSON. Cited by Busey, *Ibidem*, p. 520.
- <sup>33</sup> BREAKER, W. F. A Case of Elephantiasis of Both Lower Extremities. *Phys. and Surg.*, 1909, p. 505.
- <sup>34</sup> UNNA, P. G. Histopathology of Diseases of the Skin. Translation by Walker, Edinburgh ed., Macmillan, 1896, p. 493.
- <sup>35</sup> NEIDEN. Quoted by Shattuck, *Boston Med. and Surg. Jour.*, 1910, p. 718.
- <sup>36</sup> VIRCHOW. Quoted by Shattuck.
- <sup>37</sup> WINIWARTER. *Ibidem*.
- <sup>38</sup> COHNHEIM. *Ibidem*.

## A CASE OF EPIDERMOLYSIS BULLOSA, SHOWING LOSS OF ELASTIC TISSUE IN THE APPARENTLY NORMAL SKIN.

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CASES of epidermolysis bullosa\* are sufficiently rare to be worthy of record at all times, but this case is particularly so, as the histopathology of the apparently normal skin is of very great interest.

### CASE REPORT.

The patient was a white male, aged 26 years. Clinic No. 19859. He presented himself to the Skin Clinic of the Washington University Dispensary on Jan. 14, 1916, complaining of an eruption of blisters on the legs.

His family history has no bearing on the case. His previous history, habits, etc., are apparently irrelevant. There is no history of any chronic skin condition and he states that, to his knowledge, no one in the family has ever had anything resembling his condition.

The present trouble began at birth, since which time he has always had more or less of an eruption of large or small bullæ, or the results of the involution of bullæ, and in the past twenty years or so, a progressive disease of the nails.

The patient is a well developed white male, weighing about 135 pounds. A general physical examination reveals nothing abnormal in the chest or abdomen.

The lesions on the skin are well marked and will be described in detail.

The skin over the elbows shows very marked papery atrophy and the patient states that he has had bullæ there on numerous occasions, but not lately. Several of the finger nails show very marked dystrophic changes.

The legs, from a few inches below the knees almost to the ankles, show very marked lesions. These are of three types: first, several bullæ, 1 to 3 cm. in diameter, all filled with a serous fluid; secondly, yellowish crusted lesions where the bullæ have ruptured and become secondarily infected; thirdly, scarring and atrophy of the skin.

All of the toenails show marked dystrophic changes.

The skin covering the rest of the body is apparently normal. There are no lesions in the mouth or nose nor is there any evidence of intestinal involvement. There are no milium-like lesions anywhere.

The patient states that it requires quite severe trauma to produce a lesion, and no attempt was made to elicit experimental ones.

A small piece of the apparently normal skin of the arm was removed (without anesthesia), for histological study. This was sectioned and stained with the usual stains. (It is worthy of note that some two weeks after the small biopsy wound had healed, a bulla about 2 cm. in diameter suddenly appeared, involving the scar and the skin around it.)

\* For a complete description of this disease, with a review of the literature and bibliography, see article of WISE AND LAUTMAN, *Jour. Cutan. Dis.*, 1915, xxxiii, p. 441.

## HISTOPATHOLOGY.

The epidermis is practically normal, there being in a few places a suspicion of slightly more than usual succulency. The granular layer is somewhat thickened.

There is quite marked œdema of the derma. The lymph spaces are dilated. The blood vessels also are somewhat dilated. The principal interest lies in the elastic tissue. In the skin of normal individuals we find that the subepidermal mosaic of elastic tissue fibrils sends out tiny threads which weave themselves between the basal cells of the epidermis and serve to bind this layer to the derma. These binding threads are here, for the most part, missing. There is some elastic tissue above the subpapillary plexus but it is very scattered, and in some small areas, entirely wanting. The fibres that are present show no degeneration; they are only torn by the œdema. The loss of elastic tissue is quite marked around the hair follicles. In many of these places, just underneath the epidermis, the elastic tissue is entirely missing, and the bundles below are short, thick and distorted. The deeper portions of the derma show the elastic tissue in practically normal distribution but the fibres are shorter and thicker and not so wavy.

There are no follicular or glandular changes.

There is no evidence of inflammatory reaction.

## SUMMARY AND CONCLUSION.

A case of epidermolysis bullosa is described, lacking hereditary or congenital features, but showing loss of and changes in the elastic tissue of the apparently normal skin.

This anomaly was first reported by Engman and Mook<sup>1</sup> and later confirmed by Kanoky and Sutton.<sup>2</sup>

The opinion of Engman and Mook, that the probable ætiological factor in epidermolysis bullosa is the diminution or absence of elastic tissue, is again confirmed.

This case is from the service of Dr. M. F. Engman, to whom I am indebted for permission to report.

## REFERENCES.

<sup>1</sup> ENGMAN AND MOOK. *Jour. Cutan. Dis.*, 1906, p. 55.

*Idem.*, *ibid.*, 1909, p. 275.

*Idem.*, *Interstate Med. Jour.*, 1911, p. 499.

<sup>2</sup> KANOKY AND SUTTON. *Jour. Amer. Med. Assn.*, Apr. 2, 1910, p. 1137.

## SPECIAL ARTICLE.

## HISTOPATHOLOGY.

(Continued from September number, page 664.)

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## CHAPTER VII.

## THE LICHENS: LICHENIFICATIONS AND NEURODERMITIS.

LICHENIFICATION, a term introduced by Brocq, is a process identical with that which Besnier<sup>1</sup> in 1892 designated as lichenization. It is a consecutive cutaneous phenomenon developing upon prepared soil in individuals suffering with an itching dermatosis. Neurodermitis (Brocq) is a thickening of the skin developing in a fairly characteristic manner, in definite localities, independent of any preëxisting skin disease. Pruritus precedes its appearance, as a rule, a fact which has caused Brocq<sup>2</sup> to adopt another appellation, namely, circumscribed pruritus, with lichenification. Thus, neurodermitis is a primary skin disease. It is evidently the same condition, one form of which Willan originally called lichen simplex and Vidal lichen simplex acutus; and another form of which Rayer called lichen circumscriptus and Vidal, lichen chronicus circumscriptus. (See CHAPTER V.) Secondary lichenification may occur anywhere and it has no definite outline, while neurodermitis occurs at relatively typical sites, and possesses a characteristic aspect. The former is a thickening of the skin; so is the latter. The former is consecutive to a preëxisting dermatosis; the latter to prodromal itching. Both depend upon predisposition, a fact unanimously conceded. The German and English schools consider neurodermitis a chronic eczema. This is undoubtedly wrong. Neurodermitis is no eczema, but a disease *sui generis*. Neither is lichenified eczema pure eczema (see CHAPTER VIII.), but a distinctive consecutive lesion. Whether lichenification arises in eczema, scabies, prurigo, dermatitis herpetiformis, or in connection with any other disease, it remains the



same. We cannot distinguish lichenification following eczema from that following prurigo, any more than we can distinguish between impetigo developing in the course of eczema and impetigo developing in the course of prurigo. Precisely the same principles apply to lichenification which apply to all other consecutive lesions. They are purely generic and in no sense individual.

Neurodermitis presents a much more distinct clinical picture than does lichenification, but microscopically they are alike. It is not within the province of a work on histopathology to enter exhaustively into the clinical aspects of diseases, but it is well worth while to study Brocq's,<sup>2</sup> Besnier's<sup>1</sup> and Török's<sup>3</sup> precise views on the subject at hand. We in England and America share equally with the Teutons a gross and unenviable neglect of this chapter of dermatology. It is exactly twenty years since Brocq finally clarified the entire question, and we still think only of verrucous lichen or chronic eczema when we see a patch on the skin which in France would promptly be recognized as neurodermitis.

Brocq, himself, makes no far reaching distinctions between primary and secondary lichenification, but for the sake of clinical accuracy he has entirely separated them from the lichens. He and Jacquet<sup>2</sup> originally employed the name *neurodermite* to characterize primary lichenification because of its association with extensive itching and nervousness, but without any desire to imply an immediate causal involvement of the central or peripheral nervous system. It is for this reason, too, that he subsequently abandoned the term as misleading, and substituted pruritus with lichenification. Whatever the clinical and ætiological differences between the two, their minute structure, as has been stated, is the same.

Primary lichenification is also called lichen chronicus simplex (Vidal) and pseudolichen (Tommasoli). It occurs in the varieties mentioned by Brocq, in a verrucous form (Kreibich<sup>4</sup>), in a nodular form (Brocq), further described by Fabry,<sup>5</sup> and finally in a linear psoriasiform arrangement, a fact which Vignolo-Lutati<sup>6</sup> points out. In none of these special clinical types has any essential variation from the usual microscopic picture been found.

#### THE HISTOLOGY OF PRIMARY AND SECONDARY LICHENIFICATION.

Unna in his histopathology and in Ivan Bloch's volume entitled, "Unna's Lehren," Ehrmann in Riecke's text book on skin diseases, and Joseph in his text book, all refer to lichen simplex as a form of eczema and state that its histopathology is one with that of the latter disease. Ehrmann identifies the process of eczematization with that of lichenification or lichenization. This author, with Fick,<sup>7</sup> asserts in so many words that the disease microscopically

corresponds with chronic eczema, a flat mistake, as will be shown in CHAPTER VIII. Kreibich,<sup>8</sup> on the other hand, whose viewpoint in general is not servile to Viennese tradition, enthusiastically accepts Brocq's views.

Brocq,<sup>2</sup> for whom Dalous studied the structure of lichenification, finds a hyper- and parakeratosis, acanthosis, vascular dilatation in the papillary body, and islands of proliferated connective tissue cells. Jacquet<sup>2</sup> emphasizes a lymphatic dilatation in the cutis with œdema of the collagen, largely restricted to the perivascular areas in the papillæ. In the epidermis, in addition to the features mentioned, he reports *altération cavitaire*, a normal granular layer, and the presence of migrated leucocytes. Darier<sup>9</sup> emphasizes a regular elongation of the papillæ, which contain infiltrations. Vignolo-Lutati<sup>6</sup> vividly describes these changes in the papillæ, referring them back to a pronounced and uniform elongation of the pegs (Fig. 1), which are not, however broadened. The stratum corneum is not markedly thickened, nor are any of its cells nucleated (Fig. 4). The granular layer is discontinuous, but not otherwise modified. *Altération cavitaire* is present and the basal cells are slightly disturbed in arrangement. Low down in the corium, aside from the increase in the number of lymphoid cells, there are no changes. The papillæ, however, are lengthened to conform to the pegs, their vessels are dilated, and a hyperplasia of fibroblasts is found. Among these, numerous infiltrating lymphocytes are deposited. Kreibich<sup>8</sup> finds acanthosis, parakeratosis and intracellular œdema, but points out that these epidermal features are less significant than the metamorphoses which the corium and papillary body undergo. In young lesions the papillæ are congested, and there is a trifling infiltration of round cells. Later the collagen swells, looks glassy and then broadens. A lymphœdema involves this entire structure, and there takes place a subepidermal fluid accumulation (Figs. 1 and 3). In maturer lesions still, parakeratosis, elongation of the pegs, clubbing (Fig. 4) of the papillæ and "stable hypertrophy" of the collagen are observed.

Lichenification presents a very striking microscopic aspect. When seen under low magnification it appears as if the epidermis and papillary body were clutching each other with long thin fingers (Fig. 3). This is due to an inordinate proliferation of the papillæ in compensation to which the pegs have grown down, so that they attain a length of from twice to thrice the normal. The majority of the pegs remain discrete and narrow, but in patches they coalesce, resembling two or three fingers held closely together (Figs. 1 and 4).

Increased magnification shows that the stratum corneum is thin, and, on the whole, not made up of nucleated cells (parakeratosis, Figs. 1 and 3). The stratum granulosum is not increased in depth and is discontinuous. The suprapapillary rete is slightly thickened, and the pegs are markedly increased in their vertical axis, accounting for their abnormal length (Fig. 3). This acanthosis is partly due to proliferation of the Malpighian cells, although the mitoses are only slightly, if at all, increased in number; but more especially to a marked intercellular and slight intracellular œdema (Figs. 1 and 3). In consequence of this the epithelial threads are put on the stretch and a few cells show Leloir's

degeneration. The germinative layer, aside from being œdematous, is but slightly disturbed. A moderate number of migrating leucocytes invade the cuticle.

The main changes are in the papillæ, the subpapillary area, and in the upper level of the reticular layer of the corium. At these sites a pronounced œdema (Figs. 1, 2 and 3) exists which does not spare even the smallest interstices among the collagenous fibres. The smaller lymphatics are all dilated so that the collagen bundles are forced apart (Fig. 2), swollen and somewhat glazed. The larger lymphatics form veritable rifts, either emptied or more or less filled with lymphocytes. Their endothelia are swollen (Fig. 2). Identical changes are found in the blood vessels (Fig. 2) from the finest capillary in the papillæ to the largest vessels in the subpapillary plexus. Their endothelial and perithelial cells are in a state of œdema and multiplication (Fig. 2), and many of the vessels are filled with lymphocytes, while the perivascular lymphatics are packed with succulent cells of the same variety. Thus, islands of infiltration are formed (Fig. 1).

The infiltration is partly diffuse and partly focal (Figs. 1, 2 and 3). In the papillæ, the former condition prevails. Here in the meshes of the œdematous collagen fibrils, are found lymphocytes, fibroblasts and an occasional mast cell, densely grouped. The cells all stain clearly. This infiltration extends down to the upper level of the subpapillary vessels where it changes in character, becoming focal (Fig. 1), because of confinement to the dilated vessels and the perivascular lymphatics, as described at the end of the preceding paragraph. These foci vary in size and shape according to the magnitude and form of the vessels involved. The non-infiltrated collagen at this level is markedly swollen, glassy, and in places hypertrophied. In the lowest depths of the corium only slight œdema of the collagen and no infiltration are present.

The elastic tissue, pilosebaceous organs, coil glands, sweat ducts and arrector muscles are undisturbed save for the mechanical effect of the œdema. Vignolo-Lutati<sup>6</sup> finds perineural œdema, but this has been unconfirmed. Between the papillary body and epidermis an occasional serous lake is found, as mentioned by Kreibich<sup>8</sup> (Figs. 1 and 3). These subepidermal vesicles contain fibrin and a few leucocytes. They are not formed by necrosis of tissue, but represent the maximum of the serous saturation noted in the papillary body, and develop at points at which the resistance of the spongy collagen fibres is lowest.

Lichenification thus is a subacute or chronic inflammation, with a tendency to connective tissue hyperplasia, associated with a productive inflammation of the epidermis as well. When this process is exagger-



ated, the lesions are prone to become verrucous. Then the papillæ club and are, of course, even longer than in the ordinary type, while the epidermis grows thick and somewhat resembles that seen in papillomas.

The chief characteristics of the disease are:

- (1) Parakeratosis and hyperkeratosis.
- (2) Intercellular œdema in the rete and pegs.
- (3) Acanthosis in the rete and pegs, causing elongation of the latter.
- (4) Subepidermal accumulations of serum.
- (5) Hypertrophy of the papillæ.
- (6) Œdema of the papillæ.
- (7) Dilatation of all the papillary vessels.
- (8) Infiltration of the papillæ with lymphocytes, fibroblasts and a few mast cells.
- (9) Dilatation of the vessels of the subpapillary plexus and the lymphatics in this area.
- (10) Infiltration of cells (as in 8) about the vessels forming foci.
- (11) Œdema and hyperplasia of the collagen.
- (12) Slight œdema in the upper levels of the pars reticularis.

The negative features of lichenification are:

- (1) Absence of vesicles in the epidermis.
- (2) Absence of marked hyperkeratinization or marked parakeratosis.
- (3) Absence of excessive fat in the epidermis, vessels, skin glands, etc.
- (4) Absence of follicular involvement.
- (5) Absence of disturbance of the pilosebaceous or sweat organs.

The conditions from which lichenification may have to be differentiated are psoriasis, parapsoriasis, plaques of seborrhœa and lichen planus, and pityriasis rubra pilaris. In psoriasis the hyper- and parakeratosis are more marked. Munro's abscesses are present, the subpapillary rete is less thickened and the œdema in the corium less marked. In parapsoriasis there is thinning of the rete, interrupted obliteration of the basal layer, and at some points, coalescence of the infiltration in the papillary body and epidermis. In seborrhœa the hair follicles are involved, minute vesicles are found in the epidermis, the acanthosis is irregular and the fat distribution characteristic. In lichen planus the changes in the granular layer, the dell, lacunæ and characteristic shape of the infiltration distinguish it from lichenification. Finally, in pityriasis rubra pilaris, the follicular plug, changes in the



coils, the nature of the infiltration and the absence of changes, excepting near the follicles, will serve to prevent confusion.

## REFERENCES.

- <sup>1</sup> BESNIER. Premier note et observations preliminaires pour servir d'introduction à l'étude des prurigos diathésiques. *Ann. d. dermat. et d. syph.*, 1892, p. 634.
- <sup>2</sup> BROcq AND JACQUET. Notes pour servir à l'histoire des néurodermites: du lichen circumscriptus des anciens auteurs, ou lichen simplex d' E. Vidal. *Ann. d. dermat. et d. syph.*, ii, pp. 97 and 207.
- <sup>3</sup> TÖRÖK. Quelques remarques sur la signification des lésions éczemateuses et sur les réactions générales de la peau. *Ann. d. dermat. et d. syph.*, 1896, p. 1397.
- <sup>4</sup> KREIBICH. Neurodermitis verrucosa. *Arch. f. Dermat. u. Syph.*, cxxi, p. 307.
- <sup>5</sup> FABBY. Ueber zwei Fälle von Neurodermitis nodulosa. *Arch. f. Dermat. u. Syph.*, cxxi, p. 241.
- <sup>6</sup> VIGNOLO-LUTATI. Neurodermitis linearis psoriasiformis. *Arch. f. Dermat. u. Syph.*, cxi, p. 747.
- <sup>7</sup> EHRMANN AND FICK. Histopathologie. Vienna, 1906, p. 21.
- <sup>8</sup> KREIBICH. Lehrb. der Hautkr. Vienna, 1904, p. 183.
- <sup>9</sup> DARIER. Précis de dermatologie. Paris, 1909, p. 477.

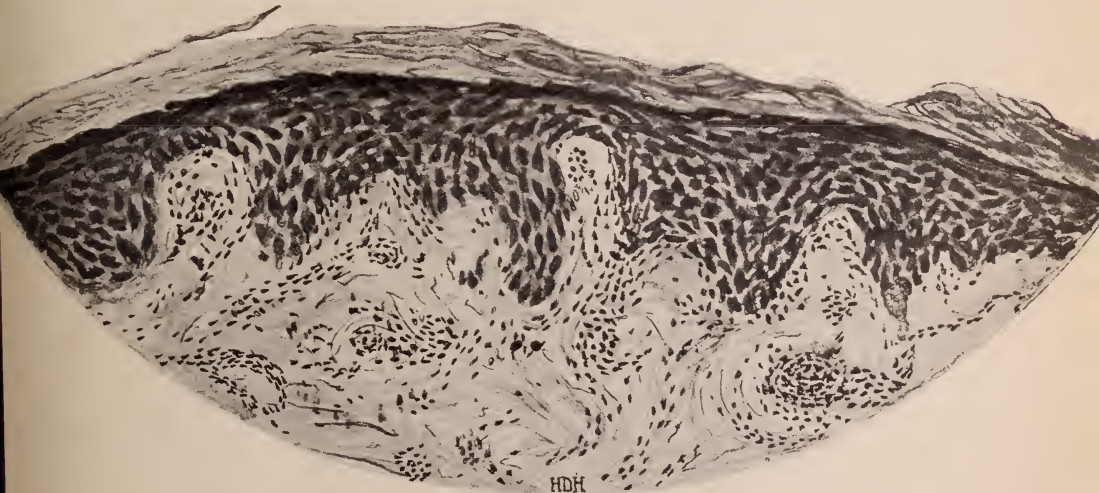


FIG. 1. Lichenification. Drawing. Zeiss, Oc. 4, Obj. DD.

Note the slightly thickened but otherwise normal stratum corneum, intercellular oedema, coalescence of many pegs, subepidermal lakes, oedema and infiltration of the papillae, and focal infiltration in the depths.

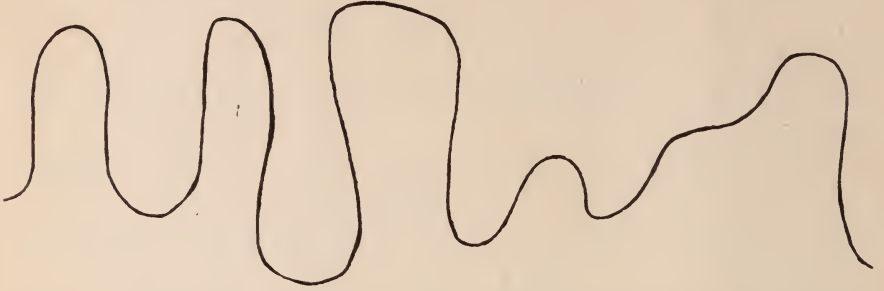


FIG. 4. Lichen simplex. Diagram. Note the elongated, clubbed and fused pegs.

*(To be continued.)*

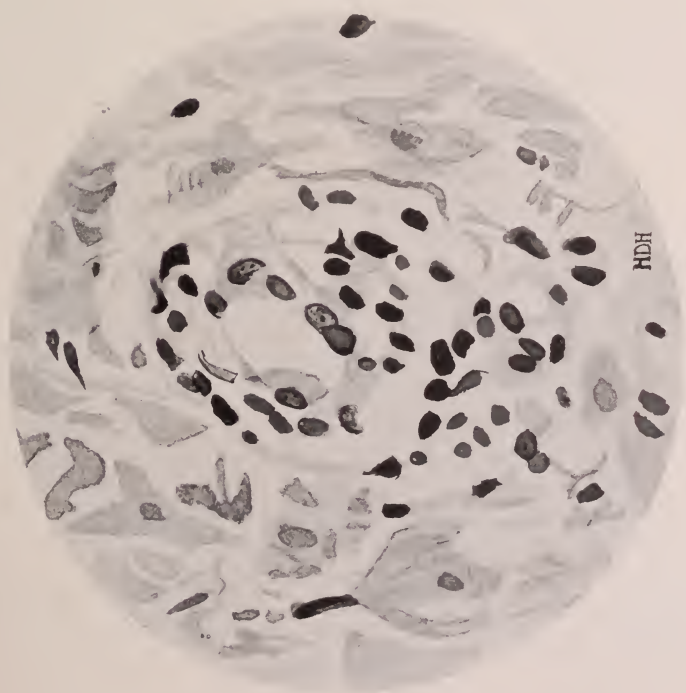


FIG. 2.

Lichen Simplex (Neurodermite). Drawing, Zeiss, Oc. 4, Obj. DD.  
Note dilated blood and lymph vessels, swollen endothelia, perivascular lymphocytic infiltration, swollen and separated collagen bundles.

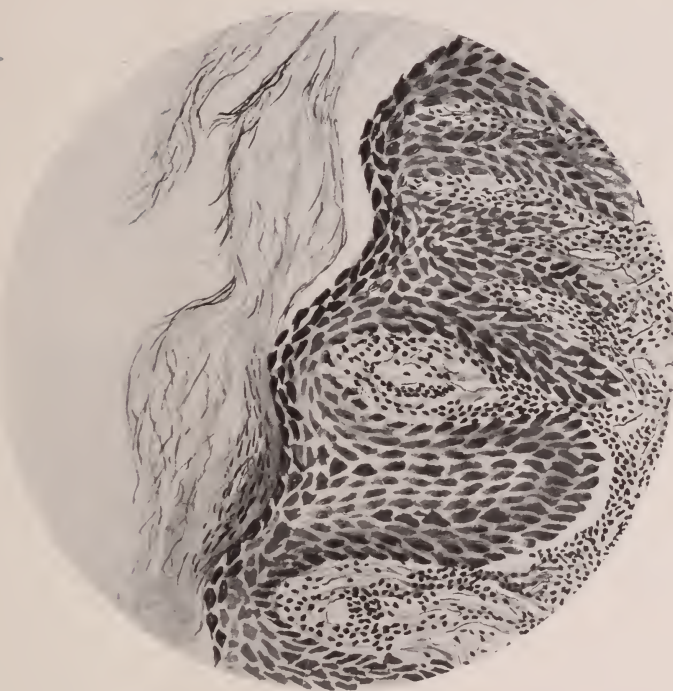


FIG. 3.

Lichen simplex. Drawing, Zeiss, Oc. 4, Obj. DD.  
Note hyperkeratosis and small area of parakeratosis, acanthosis and intercellular edema, subepidermal lake, infiltration and edema of papillae, and the elongation of the latter and the pegs.





## SOCIETY TRANSACTIONS.

## NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, May 23rd, 1916.

HOWARD FOX, M.D., *President*.

## MONILETHRIX. Presented by Dr. KINGSBURY.

The patient was ten months old and at birth had apparently normal hair, but shortly afterward the hairs began to break off, and when presented the head was sparsely covered with short stumps of hair, which were lifeless and brittle.

## DISCUSSION.

DR. MACKEE said that in a short examination in a poor light he was unable to find any beaded hairs, but the fact that the infantile hair fell out shortly after birth and was replaced by hair which was very brittle and broke off close to the scalp, together with the keratosis pilaris, would lead him to make a diagnosis of monilethrix. He felt quite certain that the beaded hair would be found by Dr. Kingsbury. The fact that there was no other case of monilethrix in the same family would not militate against such a diagnosis, as every family tree must have a beginning.\*

DR. WHITEHOUSE agreed with Dr. MacKee that the association of keratosis pilaris and the general history of the case indicated that it was monilethrix.

## SEBORRHOEIC ECZEMA. Presented by Dr. KINGSBURY.

The patient was a girl, five years of age, who presented a patchy, follicular eruption of a year's duration, located on the back and in the axillæ.

## DISCUSSION.

DR. TRIMBLE agreed with the diagnosis of follicular seborrhœic eczema, although he had never seen a case in such an early stage. The cases he had seen

\* Dr. MacKee was indebted to Dr. Kingsbury for the opportunity of studying some beaded hairs from this patient. They were typical monilethrix hairs. Under the microscope one hair showed a large amount of medullary substance in the internodal portion of the hair, an observation not hitherto made.

had been of the subacute or chronic type, and in the latter variety one could hardly fail to make the diagnosis. This patient's lesions were as yet very mild and did not show so much oil or grease as the cases he had seen before, neither was there so much redness. He believed, however, that it was the same condition.

DR. WHITEHOUSE agreed with the diagnosis.

DR. MACKEE said that he was not prepared to dispute the diagnosis, yet hesitated to accept it. The spinal region and the axillæ, of course, were favorite sites for seborrhœa. On the other hand, keratosis pilaris often occurred in circumscribed, scattered areas, and he was in favor of this diagnosis. The fact that some of the lesions showed signs of involution did not speak against keratosis pilaris, because the latter disease could be temporarily improved by the use of salicylic acid, the X-ray, or other methods, and even temporary spontaneous involution was not uncommon, especially during hot weather.

DR. JOHNSTON also thought it was a case of keratosis pilaris.

DR. TRIMBLE said he could see quite a little seborrhœa about the case, only it was not equally prominent in all the affected areas. It seemed to be a very mild superficial inflammatory condition; some of the lesions, especially on the shoulder, seemed to be true scaly seborrhœic eczema, and that seemed the most likely diagnosis.

DR. HOWARD FOX thought the condition corresponded to that recently described by Dr. Trimble, namely, follicular seborrhœic eczema. It certainly was not like some clear cut cases of circumscribed keratosis pilaris, in which the groups of horny follicular plugs stood out plainly upon a normal skin and one that was not at all reddened.

#### LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by DR. TRIMBLE.

The patient was a young woman, twenty-four years of age, born in the United States. According to her statement, the lesion had existed since babyhood. At that time, an operation had been performed for a small tumor in the bend of the elbow. It afterward recurred, with a resulting hypertrophied scar. When presented, the lesion was situated in the flexure of the elbow, was about two by three inches in diameter, and was irregular in outline. There were also several small lesions on the forearm. The lesion consisted of scar tissue mingled with the lymphangioma. The speaker asked for suggestions as to treatment.

#### DISCUSSION.

DRS. WHITEHOUSE AND MACKEE suggested radium treatment.

DR. HOWARD FOX called attention to a recent report of Dr. Frank Simpson who apparently had obtained a most excellent result by the use of radium.

#### LUPUS ERYTHEMATOSUS. Presented by DR. WHITEHOUSE.

Sarah K., age, 26 years. The lupus erythematosus was of the bat-wing variety, extended over the bridge of the nose and adjacent skin of the cheeks, and was rather acute, having existed for only two months. There were also a few small patches scattered through the scalp, on the lobes of the ears, and behind the ears. The patient also had a goitre of considerable size, the thyroid having begun to enlarge thirteen years before, after the birth of her first child. The speaker said that the disease was of the type that had in his hands yielded to

the administration of iodoform, one grain three times a day, and that the case was presented because of the interest of the two associated conditions.

**PREFUNGOID STAGE OF MYCOSIS FUNGOIDES.** Presented by DR. KINGSBURY.

The patient was a middle-aged woman who stated that the eruption had existed for seven years, beginning with patches on the back, and which had gradually extended. The eruption was at first accompanied by a slight pruritus but the itching had increased steadily in intensity.

**MYCOSIS FUNGOIDES.** Presented by DRs. MACKEE AND WISE.

The patient, Henrietta K., from Dr. Fordyce's Clinic, was forty years of age, and was born in the United States. She presented a generalized scaly and patchy eruption extending all over the trunk, arms and legs, excepting a few small areas. It was also beginning to appear on the face, in the form of infiltrated nodules. When first presented before the Society at a previous meeting, the eruption was strongly suggestive of psoriasis, but since then the characteristic appearances had changed considerably and the diagnosis of mycosis fungoides had been established by microscopic study.

**MORPHŒA (MULTIPLE LESIONS).** Presented by DR. HOWARD FOX.

The patient, A. B., was a woman, forty-three years of age, born in the United States. She had been married for twenty-five years and was the mother of ten healthy children, all living. No similar disease had ever been noticed in any of her family. About two months after the birth of her last child,—*e.g.*, twenty months ago,—the eruption had first made its appearance, as a single patch on the abdomen. Since then, new lesions had gradually appeared. When presented, there were twenty-two patches of morphœa, situated mostly upon the trunk. There were eleven patches upon the back, most of them upon the upper third, the rest of the patches being upon the breast, abdomen, buttocks and outer surfaces of the arms. They were rounded or oval in shape, and varied from one-half to three inches in diameter. Most of them were raised above the surface of the skin, while a few were depressed. All the patches were smooth excepting one upon the upper central portion of the back, upon which a number of blackish, pin point, horny plugs were present. All the lesions were surrounded by typical violaceous borders. There were no subjective symptoms. The patient, who appeared to be in excellent health, was a large, stout woman, weighing about 200 pounds. The Wassermann reaction was negative.

**MORPHŒA.** Presented by DR. JOHNSTON FOR DR. HEIMANN.

The first lesions appeared a year ago near the left eye, since when the other areas had developed. The disturbance was confined to the man's face and clavicles. The diagnosis was confirmed by microscopic examination. On the cheeks, before and behind the ears, on the neck, and at the sterno-clavicular junction, were yellowish, flat, indurated patches of various dimensions. They felt hard and had a curious resistance which simulated that of a firmly elastic substance inserted in the skin.



## DISCUSSION.

DR. JOHNSTON said that he had suggested the use of pituitrin in these cases. He had been working with this remedy for some time, and had discussed two cases before the American Dermatological Association,—one, a generalized scleroderma, and one that would be called morphœa. The conditions had not entirely disappeared, but there was nothing left except a pseudo-ankylosis of the wrists and ankles in the boy's case, although at first he had patches ten by 12 cm. in diameter. In the second case, one patch disappeared and another was reduced to half its extent. The patients received no other medication. The dosage was determined in each individual case by the reactions. The fifteen-year-old boy took eight grains a day; it was given continuously, except that once in three months it was intermitted for a week. These patients had everything to gain and nothing to lose by the medication. One case had a glucose tolerance as high as three hundred grams.

DR. SHERWELL said that he very well remembered Dr. Johnston's remarks at the Dermatological Association on organotherapy, and that he himself had spoken of the use of pituitrin in psoriasis, with good effect. He was still using it for such conditions, with marked beneficial results in many instances; in others it seemed to do no good. He had prescribed it absolutely empirically, from analogy in the use of thyroid, giving from six to twelve grains of the Burroughs-Wellcome preparation.

DR. SCHWARTZ told of one case at Cornell University, which he had been treating with pituitrin, but it had not yet been given long enough to report about it. The patient had a very high glucose tolerance, 250 grams. He had been taking 12 grains a day, and it seemed as though the condition was beginning to soften up.

## EXTENSIVE LUPUS VULGARIS. Presented by DR. HOWARD FOX.

The patient, Martha J., was a full blooded colored woman, 32 years of age, a cook by occupation. She was born in Virginia, where she had always lived until eight years ago, when she came to New York. There was no family or personal history of either tuberculosis or syphilis. Her general health had always been fairly good. The eruption first appeared four years ago, following an attack of grippé. At the same time she suffered from some nasal condition for which she received treatment for a year. The cutaneous lesions were first noticed upon the eyelids and hands. New lesions had steadily appeared up to the time of presentation. They had never caused any subjective symptoms whatsoever. The eruption was generalized upon the face, arms, forearms, hands, thighs and legs. It consisted of dull colored, firm, painless, non-ulcerating nodules, which in places had coalesced to form elevated, solid patches. The patches on the cheeks resembled those of hypertrophic lupus vulgaris. On the legs, the patches were only slightly elevated and presented more or less scaling. There was a group of small nodules below—not upon—the left eyebrow, and a few upon the ear, though not affecting the lobule. There was no change in the sensation of touch in any of the lesions on either the face or the extremities. There were two enlarged cubital glands upon the left side, but apparently no enlargement of the ulnar nerves. The Wassermann reaction was negative.\*

\* Subsequently two biopsies were made and tissue was stained for lepra bacilli and for the histological structure, by Dr. Heimann, who reported: "Microscopically, the picture is unquestionably that of tuberculosis. The absence of lepra cells and Hansen bacilli and the structure of the lesions, which is absolutely that of tuberculosis, rule out lepra."



## DISCUSSION.

DR. WHITEHOUSE said that clinically he saw nothing in the case to suggest lupus, neither did he think it was syphilis; the patient gave a negative Wassermann, but if it was syphilis with that large number of granulomatous lesions, a positive Wassermann might be expected. The lesions on the fingers, backs of the hands and eyelids suggested leprosy, as well as the facies. The woman also gave a history of having had some intranasal disturbance. He was rather inclined to believe it a case of leprosy.

DR. TRIMBLE also said that from a clinical examination the case seemed more like leprosy than anything else.

DR. HOWARD FOX said that the patient had only recently come under his observation. He had considered three possible diagnoses—leprosy, syphilis and lupus. The fact that the patient had never lived in a leprosy country was somewhat against the diagnosis of leprosy, but the complete absence of any anesthesia or hyperæsthesia seemed to exclude this disease. The diagnosis of syphilis seemed improbable on account of the negative Wassermann, particularly in view of the extent of the eruption and the absence of previous antisiphilitic treatment. Pending a histological examination, the speaker would make a probable diagnosis (by exclusion) of lupus vulgaris.

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. MacKEE  
FOR DR. FORDYCE.

The patient, Emma E., was 49 years of age. The duration of the disease was fifteen years. This patient was exhaustively studied by Fordyce and reported at length by him under the title of "Symmetrical Cutaneous Atrophy with the Coincident Development of Syphilis of the Skin and Mucous Membranes," in THE JOURNAL for April, 1904. When presented by the speaker, there was a diffuse, mild erythema of the feet, legs, thighs, hands, forearms and arms. The skin was very thin and parchment-like through which the veins could be distinctly seen. Over the knees the atrophied skin was thrown into folds,—anetodermia. There were no areas of infiltration or ulceration, and there were no bullæ,—all of which had formerly been present. The patient still showed evidence of syphilis of the nervous system,—the pupils were unequal and did not respond well to light. The knee-jerks were absent. The Wassermann reaction was positive.

DR. WISE said that he did not think the cutaneous atrophy had anything to do with the woman's syphilitic infection, but that there were two independent diseases present, which happened to occur coincidentally.

LICHEN PLANUS LINEARIS. Presented by DR. MacKEE FOR DR. FORDYCE.

The patient, James K., was a boy, 13 years of age. The duration of the eruption was one month. The right side of the neck, the right shoulder, the right side of the chest and upper back, and the right arm and forearm were the sites of the eruption. The eruption began at the middle line, on the back and on the chest and extended as a band, about half an inch wide, to the shoulder and then down the arm to the wrist. It was absolutely unilateral. In places, the eruption consisted of closely aggregated lichen planus papules. This was especially noticeable on the back and chest. On the arm and forearm there was a decided verrucous and hyperkeratotic element. In distribution and in the verrucous character of the eruption, the disease markedly resembled an ordinary nevus unius lateris of the verrucous or hyperkeratotic variety. The

duration and the shiny, flat, umbilicated papules, in spite of the absence of pruritus, strongly suggested an unusual example of lichen planus. Several years ago, Hallopeau reported a case in which the eruption was very similar to, if not identical with, the case reported by the speaker. Hallopeau made a diagnosis of lichen planus, but later, as a result of microscopical investigation, he changed the diagnosis to *nævus linearis lichenoides*. Cases of lichen planus were on record where the lesions had apparently followed the distribution of the cutaneous branches of a large nerve. The adjective *zosterformis* had been used to designate such examples.

The histopathology of the speaker's case was that of lichen planus. There was a thickened horny layer which was almost entirely free from nuclei. The hyperkeratosis extended for some distance into the hair follicles. The granular layer was very markedly thickened. There was an acanthosis with very little intercellular oedema. Some of the prickle cells had undergone hyaline degeneration. The papillæ were broadened. The capillaries and lymph spaces of the papillary body and the subpapillary layer were markedly distended. Some of the vessels contained serum. This part of the derma was oedematous. There was a rather marked diffuse infiltration of small round cells of the lymphocytic type, which was limited to the papillary and subpapillary layers of the derma.

#### DISCUSSION.

DR. JOHNSTON saw no reason to doubt the diagnosis. The lesions were fairly typical. The microscope cleared up the diagnosis beyond doubt.

#### LICHEN PLANUS ANNULARIS. Presented by Drs. MacKEE AND WISE.

The patient presented annular lichen planus lesions on the inner side of the left foot and on the scrotum and penis. The duration was six months. The Wassermann reaction was negative.

#### EPITHELIOMA OF THE TONGUE. Presented by Dr. WILLIAMS.

The patient was of Russian birth and was forty-nine years of age. The lesion began three and a half months ago, following an injury from a fishbone. The lesion presented an oval mass, one half by three fourths of an inch in area, and raised about an eighth of an inch. The whole tongue was swollen and glossy. Wassermann, 4 plus.

#### MELANOMA. Presented by Dr. JOHNSTON FOR Dr. HEIMANN.

The speaker said that the patient had been X-rayed in the Roentgen Department at Cornell University some eleven years ago for a melanoma which covered the area at the left angle of the jaw. Much of the growth disappeared under treatment.

Six weeks ago the patient returned in the condition as presented. The mass had grown up like a table mountain and was jet black. The area extended an inch in front of the left ear down and well over the neck, and thence behind the ear. It consisted of macules and papules at the margin and a plateau-like, raised inner portion. Parts of the latter were oozing. Roentgen therapy had been employed, to which the erythema now seen was due.

## DISCUSSION.

DR. TRIMBLE said that it was a very typical and no doubt hopeless case.

DR. JOHNSTON said that some cases had been reported that got well. One of the patients lived for twenty years after dissection of the neck and shoulders. Dr. MacKee and he were treating a nurse with this trouble. The lesions had actually dissolved under the X-ray. There was a central lesion on the forehead and around it were six or eight other growths, characteristic in every way. As the treatment proceeded the brown color disappeared and left a steel gray pigment in the skin, disposed in small masses,—entirely different from the previous condition.

DR. SHERWELL said that he had operated on one case with the lesion in the centre of the forehead. The primary lesion was caused by a blow from a stone, many years before. The linear and adherent fibrous tissue was excised and detached from the frontal bone. The woman lived for thirty years afterward and had a healthy family. The lesion was blue, like the uveal layer of the choroid, and was increasing in size.

ELEPHANTIASIS. Previously presented by DR. HOWARD FOX.

The following histological report was made by Dr. Heimann: "The microscopic structure of the lesion submitted for study shows changes in the epidermis and corium indicative of chronic œdema. In the epiderm there is a fairly marked proliferation of the rete cells, with enlargement of the pegs (acanthosis). A distinct broadening of the intercellular spaces, some œdema of the cells themselves and stretching of the threads indicates serous saturation of the epithelial stratum. In the papillary body and the lower levels of the derma are found numerous alterations. In the first place, there is a marked infiltration which is densest in the papillary region. Here it is very compact and consists almost entirely of round cells of the lymphocyte type. A few mast cells are present, but practically no plasma cells and no giant cells at all. This throws the weight of evidence against either syphilis or tuberculosis. Deeper down, the infiltration is in islands, each separate area corresponding nicely to a vessel. The infiltration is perivascular and is made up of the same elements as that higher up. The vessels themselves are increased in number. The walls are thickened and some are almost entirely occluded by swollen intima. A hyperplasia of the collagen with œdema of the fibres, a serous saturation of the connective tissue meshes, and a proliferation of fixed connective tissue cells are all present. Over the greater part of the section the epidermis is lacking and shows the typical structure of a non-specific ulceration. To sum up, the picture is that of a chronic inflammation, with marked œdema,—in other words, elephantiasis."

## CHICAGO DERMATOLOGICAL SOCIETY.

Annual Meeting, January 18th, 1916.

UDO J. WILE, M.D., *President*.

FAMILIAL CYANOSIS. Presented by DR. HARRIS.

Three children, nine, eight and four and a half years of age, had a history of bronchitis and whooping cough and a peculiar greenish pallor constantly present for several years. Thorough investigation had given no explanation of this color. There was no meth- or sulph-hæmoglobin in the blood and there were



no symptoms or signs of congenital heart disease. The electrocardiogram made by Dr. Herrick and shown with the cases was normal and they all had negative Wassermann reactions. They were presented for diagnosis and suggestions as to treatment. All three presented the same ashy pallor. The patients were exhibited by courtesy of Dr. Hess.

#### DISCUSSION.

DR. HARRIS explained that Dr. Hess had studied the cases very carefully and could not find the cause of the trouble. He found no evidence of a cardiac or enterogenous origin for the cyanosis. The color suggested argyria.

DR. ORMSBY agreed that the color might be due to a mild argyria. This should be ruled out.

DR. FOERSTER suggested a resemblance to the rare condition called by Virchow ochronosis, a disorder of metabolism characterized by the presence in the urine of homogentisic acid. The translucent cartilages of these cases appeared bluish gray during life; but on section showed black. In older cases the color was still darker than blue gray. The urine turned black on standing a few hours. He suggested looking for signs of such a condition.\*

#### CASE FOR DIAGNOSIS. Presented by DR. ORMSBY.

The patient, a man of 33 years, born in this country, stated that he had had the disease since boyhood. A few months previous to the examination, two hard tumors developed on the back, which were removed surgically, and later a similar one developed on the glans penis. He had been pigmented as long as he could remember. Other members of the family were normal.

On examination the patient presented three types of lesions: first, atrophic areas; second, pigmentations; and third, a new growth. The face, neck and hands were free. The trunk was covered with pigmented macules, varying in size from that of a pea to that of a fifty-cent piece and larger. These were practically contiguous to each other, giving a mottled aspect, and in color were a yellowish brown. The arms and legs below the knees were similarly, but less intensely, pigmented. The thighs were free from pigment. On the thighs, about the waist line and over other portions of the trunk were large areas of teleangiectasia and atrophy, which strongly suggested in appearance healed areas of radio-dermatitis. Between the scapulæ were scars, the result of the excision of tumors. On the glans was a large, indurated tumor mass. The resemblance in many areas to healed radio-dermatitis, the marked hyperpigmentation in others, and ordinary atrophy in still other areas, gave the case a striking appearance.

#### DISCUSSION.

DR. PUSEY said that the areas of retiform teleangiectasis, the purpuric spots and atrophic white areas suggested Majocchi's disease, a symptom complex recently made familiar to us. The tumors, like the one on the penis, did not belong to this complex; but may easily be a sequel to the other conditions. Such patches may cause leukomatous processes which may give rise to secondary epithelioma. He had recently had occasion to consider teleangiectasis from various causes, and some of the histological and clinical pictures fell in with

\* June 2, 1916, Dr. Hess reported these cases before the Section of Pediatrics at the Detroit meeting of the American Medical Association. Further study showed them to be cases of congenital heart disease.



processes like X-ray teleangiectasis. After destruction of many of the blood vessels and compensatory hypertrophy of others, a whole group of secondary teleangiectases will be found.

DR. WILE said that he could not place this case. He had seen Dr. MacKee's case of purpura teleangiectodes as well as several others and this was not like them. There were no teleangiectatic or purpuric annular lesions. Dr. MacKee's histologic studies showed that the condition was not a real purpura; but showed dilated blood vessels with an inflammatory reaction. This was a most unusual case, not in the purpura group.

DR. HARRIS remarked that the patient gave a history of the lesions disappearing when exposed to sunlight, and this observation corresponded with the fact that all the lesions presented were on covered parts. There was not a real purpura, but only a dilatation of vessels and an exudate of red cells. He asked Dr. Ormsby if the shape of the lesions changed.

DR. IRVINE thought of Majocchi's disease; but the patient claimed to have had the disease all his life. Tanning may have concealed lesions on the arms. It was too widely distributed for Majocchi's disease, and had persisted too long. He could offer no other suggestions.

DR. ORMSBY said that he felt sure the disease had been present since boyhood. The case had been treated as an ichthyosis for some years by a reputable dermatologist. The Wassermann reaction was negative. The blood showed a slight leucocytosis with ten per cent. of eosinophiles. A section of the lesion on the glans showed it to be inflammatory and not epitheliomatous. He thought purpura annularis was ruled out in view of the fact that the latter disease usually cleared up in a few years, and also as such an extensive case as this had not been recorded. There had not been sufficient time to study the histological sections. He believed the case unique.

#### PARAKERATOSIS VARIEGATA. Presented by DR. ORMSBY.

The patient, a man of 39 years, had had the disorder for 20 years. It had appeared at first as red spots. Scaling had been present for the last five years only. The disease seemed worse in winter.

At the time of examination there was a generalized redness with fine scaling, over the face, arms, trunk and lower limbs. The primary lesion was a small, scale-covered papule. On the trunk there was a variegated appearance due to light and dark areas. In some places teleangiectatic vessels were present. The clinical symptoms in this case resembled those in the two cases recorded,—one by Unna, Pollitzer and Santi, and the other by Fox and MacLeod. Treatment was of no avail and the general examination, including blood tests, revealed nothing of interest.

#### DISCUSSION.

DR. WILE remarked that it is impossible to say what had preceded the eruption presented. It may have been lichen planus, leukæmia or universal psoriasis. He could only suggest that it was an end result of some preceding dermatosis.

DR. PUSEY subscribed to Dr. Wile's view so far as the impossibility of telling what had caused the condition. He saw no reason, however, to think that the eruption was preceded by leukæmia or psoriasis. It may have been the primary eruption.

DR. STOKES said that the teleangiectasis in this case did not correspond with that of the cases of generalized teleangiectasis that he has seen. In them the skin had been normal except for the dilatation of the blood vessels. In this case there was too much general inflammatory disturbance to call it a case of generalized teleangiectasis.

DR. ORMSBY expressed regret that the members did not have a better chance to examine this case and notice the small, scaly papules on the arms. The scaling was more pronounced at times than it was on presentation. Frequent washing lessened the visible scaling. The lesions were like those described by Pollitzer and by Fox and MacLeod. In the latter, the speaker had assisted in the histological work. He hoped soon to have the sections to present to the Society. There was a vast difference in clinical appearance between this and pityriasis lichenoides chronica.

PARAPSORIASIS GUTTATA. Presented by DR. STOKES.

The patient, a man about 30 years of age, had had the eruption six years. Before treatment it was more profuse than at the time of presentation. Auto-serum injections cleared up the lesions for a time, strong chrysarobin ointment also cleared them up temporarily, and the patient had had one spontaneous remission for several months, until a severe attack of tonsillitis was followed by a recurrence. Intramuscular and intravenous injections of salvarsan had had no effect whatsoever.

#### DISCUSSION.

DR. EISENSTAEDT noticed a resemblance between this case and one shown at one of the meetings last year, which could easily have been mistaken for lues.

DR. IRVINE said that he had had a case of pityriasis lichenoides chronica, of 24 years' standing, that improved under white precipitate ointment, then recurred in a different form, resembling lues.

DR. MOOK said that in St. Louis they had had several cases of parapsoriasis clear up on intramuscular injections of bichloride of mercury. One of them, post mortem, showed syphilitic deposits in the aorta and elsewhere. The Wassermann reaction had been negative during life. They thought that other cases might also prove luetic.

DR. WILE subscribed to the good effect of mercury in these cases. He had a case of syphilis which cleared up on treatment and showed a negative Wassermann. The patient then returned with pityriasis lichenoides chronica. He expressed his dislike of the name and his doubt that the disease belonged to the parapsoriasis group.

DR. ORMSBY said that he had demonstrated a patient before the Society, on and off, for the past ten years, who was suffering from the guttate variety of parapsoriasis, or the so-called pityriasis lichenoides chronica (Juliusberg). Last year this patient's lesions had been cleared up with novorobin, but had recurred. He had previously been treated with X-rays, cacodylate of sodium, chrysarobin and many other remedial agents, without benefit. Novorobin had not been used recently on account of inability to procure the drug.

Another case of the Brocq type, which had been suffering with a coincident amœbic dysentery, was treated with two injections of salvarsan, after which the parapsoriasis cleared up. The injections of salvarsan had had no effect on the dysentery.

LUPUS ERYTHEMATOSUS. Presented by DR. SHAFFNER.

The patient was a young woman of nineteen years, with innumerable, split pea size lesions of lupus erythematosus, showing central atrophy and scaling, located on the face, back, scalp and hands. The lesions on the back were especially typical and numerous. The patient gave a history of a previous attack several years before, which cleared up entirely; even the areas of alopecia became covered with hair and remained so until the time of presentation.

## DISCUSSION.

DR. PUSEY considered it a very interesting case because of the lesions on the hands and the history of the eruption clearing up entirely and then recurring.

DR. SHAFFNER presented the case especially because of the extensive eruption and the history of a previous attack which cleared up entirely. The patient's statement that the areas of alopecia were replaced by hair growth was obviously questionable.

## SCAR SUGGESTING NÆVUS ANÆMICUS. Presented by DR. HARRIS.

The first patient was a man of 23 years, with a circular white patch on right scapular region, resembling scar tissue.

## NÆVUS ANÆMICUS. Presented by DR. HARRIS.

The patient was a Polish girl of about 18 years, with a white area of irregular shape, one and one half by two and one half inches in diameter, in the median line of the lower dorsal region. The patient was unaware of its existence.

## DISCUSSION.

DR. PUSEY said that the white area on the man's back showed textural changes in the skin, not simply a lack of vascularity. Of course in other nævi we can have changes in all the structures of the skin, so that it was difficult to say that it was impossible in nævus anæmicus; but this one looked more like a very superficial scar.

DR. HARRIS said that he was not certain of the first case shown, but that the second case, the girl, had a typical nævus anæmicus, an ivory colored spot of irregular shape which remained pale when the surrounding skin was reddened by irritation.

## POST-VACCINIAL ERUPTION. Presented by DR. HARRIS.

The patient was a boy of eleven years, with a generalized bullous eruption that appeared two weeks after vaccination and had lasted eleven months. In addition to the bullæ, there were circinate and gyrate erythematous lesions, and as the eruption faded, a marked pigmentation was left. Itching was marked. The blood showed an eosinophilia of 13%.

## DISCUSSION.

DR. PUSEY thought that there were here definite grounds for the diagnosis of dermatitis herpetiformis; these were the configuration of the lesions, the mental brightness of the patient, the fact that the eruption itched intensely, the pigmentation and the ease with which some of the cases were controlled by arsenic. There was no doubt of the association with vaccination, but to describe it as a bullous dermatitis following vaccination was simply hedging. He would come out flat footed and call it dermatitis herpetiformis. Bowen described an epidemic associated with foot-and-mouth disease. There was another type that was purely a bullous impetigo following vaccination. He had such a case which cleared up in ten days under antiseptic treatment. These cases may give us a clew to the ætiology of dermatitis herpetiformis.



DR. ZEISLER said he did not believe that it was dermatitis herpetiformis, because the latter was multiform and chronic, while these cases were monofrm and acute.

DR. MOOK said he had had several cases. Some of these cases presented an eczema-like dermatitis developing within 30 or 40 hours, and later a few bullae appeared. Some of the latter showed concentric rings like herpes iris. Dr. Schamberg controlled his cases with arsenic; 60% of Howe's cases died. Bowen and others have reported fatal cases in children, and several of Dr. Mook's own cases, one of which followed an unsuccessful vaccination, died.

DR. RAVOGLI said that he had a case of generalized bullous eruption following vaccination, which soon cleared up; but the patient had later all the symptoms of dermatitis herpetiformis. Staphylococci were cultured from this case and an autogenous vaccine made; but after many injections it had shown no result up to that time.

DR. CORLETT remarked that these cases most frequently occurred in debilitated children whose vaccination was not well cared for. The Staphylococcus albus or aureus was sometimes found in the lesions. The cases varied a great deal, but he regarded them as distinct from dermatitis herpetiformis and pemphigus, not due to local infection.

DR. PUSEY reminded Dr. Corlett that he had reported bullous erythema multiforme after gunshot wounds and local infections.

DR. CORLETT responded that a streptococcus was found in that case.

DR. HARRIS remarked that when the case presented came into the hospital, the lesions did not resemble dermatitis herpetiformis in that they were grouped. As to the pigmentation, any dermatitis lasting for eleven months would leave pigmentation.

#### CASE FOR DIAGNOSIS. Presented by Dr. STILLIANS.

An Italian woman of 28 years, who had been in this country only 3 years, had had the tumor on her left cheek for 6 years. It was a soft, dark brown mass, about two by one and five tenths cm. in size, projecting at least five tenths cm. above the surface. Under the diascpe the color was a lighter brown.

#### DISCUSSION.

DR. RAVOGLI believed it an angioma.

DR. RAVITCH thought that it might be an angioma or it might be lupus.

DR. CORLETT made a diagnosis of lupus vulgaris, hypertrophic and circumscribed.

DR. PUSEY asked if granuloma pyogenicum had been ruled out.

DR. WILE would rule out granuloma pyogenicum because in that condition one had a pedunculated, oozing tumor resembling certain forms of sarcoma. There was nothing in this case to suggest granuloma pyogenicum. He thought that lupus vulgaris could not be ruled out.

DR. MOOK thought it lupus vulgaris.

DR. HARRIS was reminded strongly of sarcoid.

DR. STILLIANS said that while he thought at first of granuloma pyogenicum, he granted that there was much to suggest lupus vulgaris. He thought that granuloma pyogenicum which was not so seldom sessile and dry, could be ruled out only by a histologic examination. He promised to present a specimen from this case at a later meeting.\*

\*Histologically lupus vulgaris was demonstrated in the sections.



## MYCOSIS FUNGOIDES. Presented by DR. QUINN.

A girl of nineteen years had had the disease for the past three and a half years. It appeared on the back, three weeks after an attack of scarlet fever. Two years later it was treated with X-rays for five months and the lesions disappeared. On their recurrence, she was given Fowler's solution for about eight months, then an injection of salvarsan. Ten days later the lesions became much worse and spread all over the body. She presented lesions in all stages.

## DISCUSSION.

DR. CORLETT regarded it as a well marked case of mycosis fungoides.

DR. HARRIS remarked that this case was shown at the Chicago meeting of the American Dermatological Association as a case of mycosis in the premycotic stage.

DR. QUINN presented the case mainly to ask the prognosis.

## PITYRIASIS RUBRA PILARIS. Presented by DR. ZEISLER.

The patient was a little girl with a well marked and characteristic general eruption of Dévergie's disease.

## DISCUSSION.

DR. MOOK said that they had a case of pityriasis rubra pilaris that did well on thyroid extract.

DR. ZEISLER replied that the case presented had already shown a slight improvement on thyroid medication.

## CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a woman of 35 years with a number of round, slightly flat, yellowish papules on the lower eyelids and near the root of the nose. They had been present for years and caused no symptoms.

## DISCUSSION.

DR. HARRIS believed the case one of multiple benign epithelioma of the tricho-epithelioma type.

## SCLEREMA NEONATORUM. Presented by DR. HARRIS.

The patient was a baby, six weeks old, whose skin showed large areas of hard infiltration of a bluish red color. This condition had been present since birth, and affected the buttocks and adjacent part of the back and thighs. The case was presented by courtesy of Dr. Cox.

## DISCUSSION.

DR. LIEBERTHAL said that the case corresponded exactly to one he saw several months ago. An infant, a few days old, presented the same features on the skin with the general condition and the local and general temperature normal. Other dermatologists offered in that case the diagnosis of sclerema neonatorum. The speaker's diagnosis was scleroderma. The child recovered

gradually and was well in a couple of months. It was important to distinguish between the two affections. Scleroderma in infants was rarely followed by atrophy, and if the disease appeared during the first year it heals within a few months. Sclerema neonatorum of the oedematous as well as of the fatty variety was accompanied by general debility and sub-normal local and general temperature, and was fatal. For this reason he considered Dr. Harris' case one of scleroderma.

DR. PUSEY asked if the condition of which Dr. Lieberthal spoke was the same as the scleroderma of adults.

DR. LIEBERTHAL responded in the affirmative.

DR. PUSEY declared that scleroderma of infants like that of adults was unknown to him. The case presented was neither oedema neonatorum nor scleroderma. Sclerema neonatorum was due to a change in the fats. He could not see how it could be called scleroderma. Low temperature and bad prognosis were not necessary. He agreed with Dr. Harris' diagnosis of sclerema neonatorum.

DR. HARRIS differed from Dr. Lieberthal. The books confused oedema neonatorum, scleroderma and sclerema neonatorum. He had recently seen three cases of oedema neonatorum, all in syphilitic children. He had seen four cases of sclerema neonatorum in the past few years, that came on soon after birth and extended over the trunk and adjacent parts of the extremities. One case in which the cheeks were involved, died. One case occurring nine days after birth, recovered. This one had a temperature of from 103° to 105° F., for weeks. During involution of the process the areas softened and became fluctuant. On incision, a cheesy material mixed with oil globules was obtained. Under the microscope, needle-shaped crystals were seen. Another case, seen at Michael Reese Hospital, went through the same involution. At the post mortem of a case at the Cook County Hospital, a fatty substance, the consistency of cottage cheese, was found. He was having it analyzed. It seemed to be either a form of fat with an excess of stearin and a lack of olein, or a disintegration of the fat with the liberation of crystals of fatty acids.

#### PECULIAR ACNE ROSACEA. Presented by DR. PUSEY.

The patient was a woman of 35 years of age, with a striking, deep blue coloration of the tip of the nose. When first presented to the Society, about a year ago, the color was much lighter and the bulbous swelling seemed to be of fibrous consistence. On presentation it was much darker in color and more vascular, and there was more rosacea showing on the cheeks. She had also calcareous deposits in the skin of the fingers.

#### URTICARIA PIGMENTOSA IN AN ADULT. Presented by DR. PUSEY.

A man of 30 years had had the eruption for eight years. The lesions had repeatedly become vesicular and the vesicles had ruptured and discharged serum, showing that they were true vesicles. Microscopic sections of one of these lesions showed an almost pure mast cell infiltration.

#### ADENOMA SEBACEUM. Presented by DR. ORMSBY.

This patient was a boy of eight years, with lesions distributed in the usual situation on the face. They were small, oval or rounded, reddish and brownish-red papules. There was moderate teleangiectasia and no subjective symptoms. The patient was shown to demonstrate the lack of results from treatment, of which he had been given a large amount with radium and X-rays,

with very little change in the lesions. A few had been cleared up by freezing with carbon dioxide snow. This case, in common with several others under observation during the last few years, was perfectly normal mentally.

#### DISCUSSION.

DR. PUSEY said that he would not have recognized the condition if he had not been reminded of having seen the case previously. The lesions were now much smaller. The facts that they were on only one cheek and that the youngster was so bright mentally were noteworthy.

DR. HARRIS remarked the peculiar brownish color of the lesions.

DR. ORMSBY said that the patient had been energetically treated with X-rays and radium with only partial relief of symptoms. Before treatment, it was a typical case. Several other cases that he had expected to present, had failed to appear. One of these, the daughter of an attorney, was also perfect mentally.

#### CONGENITAL LUES. Presented by DR. ORMSBY.

The patient was a girl of 14 years, with a sabre tibia on the right side and a bowed left ulna. She had also interstitial keratitis, photophobia, lacrimation and dental malformation, and was somewhat undersized. Her mentality was apparently normal. Six intravenous injections of 0.2 gm. salvarsan resulted in marked improvement of the eye symptoms.

#### DISCUSSION.

DR. HAASE asked if the child had any symptoms early in life, and if the case could be considered lues hereditaria tarda.

DR. MITCHELL thought that the periosteal and tooth changes appeared too early in life to allow of the classification of the case as lues hereditaria tarda.

#### LUPUS VULGARIS. Presented by DR. STILLIANS.

This case was a man of 74 years, with an eruption covering both cheeks and both ears and a large part of the left side of the chest, with smaller patches on the forehead, scalp, arms and back and sides of the trunk. The primary lesion was a typical apple-jelly tubercle, even with the surface of the skin. Hundreds of these are seen, discrete at the borders of the patch, confluent nearer the centre, and many located in the atrophic scars in the centre of the patches. There was no ulceration, nor had there ever been any. The patient seemed to be in vigorous health, but was a heavy drinker. The eruptions began at the age of 69, in a scar on the chest resulting from a scald. The lesions itched a good deal.

#### DISCUSSION.

DR. CORLETT thought of lupus vulgaris in examining this unique case and could not but so regard it.

DR. RAVOGLI expressed his belief in the patient's statement that the lupus began in a burn. This had been proven possible by experimental inoculation of tubercle bacilli and could have been done by flies. Two experimenters collected flies in a bottle and found tubercle bacilli on them in nine cases. This man might have been inoculated by flies or dirty hands.



DR. PUSEY considered it an exceedingly interesting and very rare case, showing plaques of lupus so extensive that they could be measured in square feet. Some one, he thought Dr. Ormsby, had called attention to the fact that lupus vulgaris erythematodes may develop epithelioma in the lesions without having had X-ray treatment. The speaker had had a case similar to this one, several years before. Epithelioma, which developed in the lesions, caused the patient's death. He had never been treated by X-rays.

DR. HARRIS thought it not possible that all these areas were inoculated from without. The disease must have begun in one area and spread from that to the others.

#### TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. HARRIS.

The patient was a man of 49 years, who developed lupus vulgaris on the back of his hand, 18 years ago, soon after the rupture of a ganglion. The condition persisted as lupus vulgaris until after several treatments with the quartz lamp, when the verrucous appearance which he exhibited, appeared.

#### DISCUSSION.

DR. PUSEY considered it a very interesting observation connecting these two conditions of the same aetiology but of supposedly different character. He was glad to think of the two conditions as the same. He had recently treated a case of acute tuberculosis of the tip of the ear with a quartz lamp, pressed on. The lesion, though full of tubercle bacilli, cleared up readily. The quartz lamp was better than the Finsen apparatus because it was handier.

DR. ORMSBY asked whether the quartz lamp treatment had been of value in the case presented.

DR. HARRIS answered that it had cured some lesions on the arm. He had presented the case because of the interesting change from lupus vulgaris to tuberculosis verrucosa cutis, after quartz lamp treatment.

#### CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

This patient was a man of about 28 years, with an eruption of nodules on the face, forearms, neck, occipital region and the lower extremities. They begin as acne-like nodules, accompanied by extreme itching. Some of them suppurated. They were scratched and became covered by blood colored crusts, and on healing left a slightly atrophic centre and a pigmented periphery.

#### DISCUSSION.

DR. HEIDINGSFELD said that the atrophic lesions on the forearm suggest follicular syphilide.

DR. PUSEY considered it a folliculitis resulting from a dirty sweater. Evidently the cachectic element of folliculitis was wanting in this case.

DR. HARRIS thought it an urticaria. The man developed red papules which itched intensely and continued to itch and to develop in spite of various methods of treatment, including autoserum injections. He believed it could be called an acne urticata.

#### BLASTOMYCOSIS. Presented by DR. ORMSBY.

The patient was a man of 48 years who had had the disease for over 25 years. The lesions had occupied a large part of the forearm, the entire elbow and a part of the arm, and in addition the elbow joint had been involved. The case



was shown on account of the hypertrophic development of the lesions. The hypertrophy was so marked that it presented the characteristics of an epithelioma. The histological section, however, demonstrated the fact that the entire process was blastomycotic.

#### DISCUSSION.

DR. EISENSTAEDT said that the case was of especial interest because of the history that the process had begun in the elbow joint.

DR. ORMSBY added that the resemblance to an epithelioma was another feature of interest.

#### ACUTE LICHEN PLANUS. Presented by DR. ORMSBY.

The patient was presented because of the similarity of the eruption to some of the papular syphilodermata. The patient, a man of 27 years, had a generalized flat papular eruption. Most of the lesions, particularly the small ones, were typical of lichen planus. There was, however, no itching. The patient had also a general adenopathy. Of three Wassermann tests made at different places, one was reported as positive, one as negative and one as indecisive.

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#### MANHATTAN DERMATOLOGICAL SOCIETY.

Regular Meeting, May 12, 1916.

GEORGE M. MACKEE, M.D., *Chairman.*

#### EPITHELIOMA(?) OF THE LIP. Presented by DR. HOWARD FOX.

The patient, C. T., was a man, thirty-three years of age, born in the United States, a chauffeur by occupation. Nine weeks ago a lesion, which he thought was a cold sore, appeared upon the lower lip. It failed to disappear, however, and at the end of three weeks he consulted a physician, who prescribed burned alum and lycopodium for a local application. He used this for three weeks, the lesion increasing slowly in size. One week ago, *e.g.*, after the lesion had existed nine weeks, a Wassermann test was made and proved to be negative. On examination, the patient presented a round, crusted, elevated, firm, moderately hard enlargement of the lower lip. It was situated upon the centre part of the right side of the vermilion border and was about three-eighths of an inch in diameter. It was slightly tender upon palpation. It was impossible to palpate any enlargement of the submaxillary glands. The patient gave no history and presented no signs or symptoms of syphilis. (Ten days after his presentation, a second Wassermann test was made after two provocative injections of salicylate of mercury had been given. The reaction was again absolutely negative. The patient was then given massive filtered X-ray treatment.)

#### DISCUSSION.

DR. WISE agreed with the diagnosis and said the case could be cured with the X-ray treatment, but that it should be watched for adenitis of the neck. If adenitis supervened, the glands should be operated on by a radical operation on the neck. The speaker said the lesion of the lip could be eliminated by the X-ray alone.

DR. SATENSTEIN said it was a well-known fact that spirochæte from lesions of the lip were very difficult to find unless one went very deeply into the tissue. He agreed with Dr. Oulmann that further microscopical examination should be made, even to the extent of making a culture, but would not favor a biopsy. Superficial scraping from lesions of the lip very often did not reveal the spirochæte.

DR. MOUNT said he understood the duration of this lesion had been nine weeks and there would most certainly be a positive Wassermann reaction in nine weeks. Personally he was not in favor of biopsies, especially on malignant growths, because they all knew that the lymph channels were opened up and there was no use in subjecting the patient to the possible danger of dissemination. The speaker would treat the patient for epithelioma with the Roentgen ray.

DR. FOERSTER (by invitation) said that before using the Roentgen ray, it should be determined with certainty that the lesion is not a chancre. The man had very reddened fauces and some grayish patches in the left tonsillar region, as seen in an imperfect light, where he understood the tonsil had been removed. It did not appear to be an initial lesion, clinically.

DR. ROSEN said he agreed with Dr. Foerster in his opinion of the case. At the Vanderbilt Clinic he had recently seen a man, thirty-eight years of age, with a superficial, circumscribed ulcer on the upper lip, very similar in character to Dr. Fox's case, where the dark field examination and the Wassermann tests were negative. Notwithstanding the negative reports of the laboratory, they considered the lesion syphilitic (primary lesion). After two injections of arsenobenzol, and three mercury salicylate injections, the ulcer had entirely healed. In this case he would recommend antisiphilitic treatment, before more radical measures were resorted to.

DR. MCEWEN (by invitation) said he hardly believed that the condition was an initial lesion. There was absolutely no gland to be felt on that side, and surely at this time, if it were a primary lesion, the usual syphilitic adenitis would be present. It also lacked the characteristic induration of an initial lesion. While he would not pronounce absolutely that this was an epithelioma, he was inclined to believe that that was what it would prove to be. In handling this case, he would advise some further search for spirochæte, and if nothing was found, they would be justified in carrying out a therapeutic test with salvarsan. If further observation seemed to indicate that it was an epithelioma and they were going to do a biopsy, he would strongly advise that the lesion be excised completely. As far as the lip was concerned, the tissues were elastic and a radical, surgical removal would not produce great deformity.

DR. GEYSER said in a case of that kind, where there was a chance of doubt between an initial lesion and epithelioma and with possibilities of being more likely to prove an epithelioma, he would use a therapeutic test, not salvarsan, but the X-ray, the Cornell tube with a direct contact for fifteen minutes, by two treatments. If it were a specific lesion, had an inflammatory reaction and was made worse, he would then give mercurial treatment, which would clear up the matter. If, on the other hand, it were epithelioma, the lesion would get better. The difference between the two was this, that one lesion was destructive and the other a building-up process. A building-up process could be torn down by the X-ray, but a destructive process made worse, because both things made matters worse in the same direction.

DR. SATENSTEIN said that an epithelioma, growing to that size in ten weeks, would have broken down. Epitheliomatous tissue grew very rapidly and broke down very readily. As to the Wassermann reaction, there was a case at the City Hospital, three or four years previously, with a rupial eruption, in which Dr. Noguchi had had twenty-one negative reactions to the Wassermann test.

There were some cases of syphilis, the speaker said, in which one did not get a positive Wassermann reaction.

DR. MACKEE said he thought that this case was one of epithelioma, but would want to confirm that diagnosis by excluding a chancre. In the first place, an initial lesion usually occurred on the upper lip and was usually very mild. An initial lesion of the mouth was almost always accompanied by adenitis. Furthermore, in this case there was a tendency to hyperkeratosis of the lip—the whole lip was somewhat hyperkeratotic. The duration was a matter of history. The man might have had keratosis there for months or a year and never paid any attention to it until he felt a little infiltration. The negative Wassermann test also spoke against a chancre. A primary lesion of ten weeks with a negative Wassermann reaction would be unusual. He agreed with Dr. Satenstein that a further search should be made for the spirochæte. He would not make a biopsy and agreed with Dr. McEwen that if they were going to make a biopsy, a radical excision should be done. If this was an epithelioma, the speaker thought that the X-ray or radium, properly used, should be given a trial. These agents had cured many such cases. Where there was a hyperkeratosis of the entire lip, as in this case, assuming that this hyperkeratosis represented a pre-epitheliomatous condition, the X-ray would probably prove more efficacious than the knife.

DR. SATENSTEIN asked how long the case had been under observation.

DR. GOTTHEIL said he would like to ask Dr. Fox if it was not unusual for epithelioma to obtain that size in ten weeks. This was so unusual as to cause doubt on that diagnosis.

DR. HOWARD FOX said that the patient had been under his observation for the past ten days. He was an intelligent man and able to give a trustworthy and accurate history. At his first visit, about ten days ago, the patient stated that the lesion had appeared nine weeks previously. The diagnosis of chancre seemed improbable on account of the small size of the lesion, slight amount of induration, entire absence of glandular enlargement and negative Wassermann reaction. All of the chancres of the lip that the speaker had seen had been of good size and invariably accompanied by marked enlargement of the submaxillary glands. The diagnosis of epithelioma seemed most probable, in spite of the short duration. The speaker said he was especially anxious to elicit discussion as to the advisability of X-ray treatment and of making a biopsy in this case, assuming that the lesion was probably an epithelioma.

#### BLASTOMYCOSIS. Presented by DR. OULMANN.

This case, a male adult, had been presented before the Society previously, about November, 1914. He was then shown as a case of blastomycosis and sent to the hospital at that time. He had been treated before that as a case of blastomycosis and the organism had been found. The case had not been seen for over a year, and when the man came back he showed almost the same eruption on the arms and face as he had on his trunk and body. Some of the lesions discharged pus which had an odor. On the hands the lesions healed up without the formation of any scars. There was some slight atrophy and pigmentation of the lesions on the face and scrotum, and the patient had stated that eight years previously, he had received a cut on the scrotum. He was taken to the Vanderbilt Clinic, where the diagnosis was confirmed by Dr. Satenstein, who had been kind enough to make some specimens of the organism. These could be seen under the microscope very nicely, as well as in the smear.



## DISCUSSION.

DR. MCEWEN (by invitation) said he thought this a case of blastomycosis, but that it showed a rather deeper type of lesions than most of the cases seen in Chicago. The man looked as though a general systemic infection was present and the case reminded him of the one reported by Dr. Ormsby, in which there was a general systemic infection, the skin lesions developing from beneath and ultimately discharging pus, as in this case. The scars on the arms were certainly not of the type of the cases seen in Chicago.

DR. SATENSTEIN said he might add to the history of the case that Professor Zinsser at the college, was unable to cultivate the organism, although he accepted the blastomyces as seen in the smears.

DR. FOERSTER (by invitation) said he thought this a very interesting case, because of the subcutaneous lesions, with deep abscess formation and the development of atrophic and keloidal scars. The remarks of Dr. McEwen, in regard to possible later systemic and bone involvement, were pertinent to this more serious type of infection. In cases where potassium iodide was not well tolerated, the speaker said he believed that Dr. Zeisler had called attention to copper sulphate as a good alternative treatment.

DR. HOWARD FOX recalled a case which he had seen in Berlin, in the clinic of Professor Max Joseph, which resembled somewhat the one presented. The patient presented quite a number of deep-seated, chronic, ulcerating lesions, scattered over the back, in which actinomyces had been found.

DR. OULMANN said, regarding Dr. Fox's statement, that the pus in his case had been entirely different. The pus was granular and in actinomycosis they found the fungus pretty easily. The speaker was very glad that he could sustain his diagnosis, made two years previously. He knew that for over one and one half years this man had been free from the potassium iodide eruption. He considered the systemic condition and said the patient had nephritis. The patient had received arsenic and he hoped to keep him under observation to determine if the infection was systemic.

## FURUNCULOSIS ORIENTALIS. Presented by DR. GEYSER.

The patient was a female adult and was shown for two reasons. The first was for the effect of the X-ray on hypertrichosis. The hairs had become a source of annoyance to the patient and were removed without a burn, attended by no bad results whatever. The second reason had been that the case presented an old lesion of furunculosis orientalis, which had also occurred in every member of this patient's family, who had one or more of these lesions. This case showed a lesion on the left chin. The family thought this condition due to the drinking water they used.

## DISCUSSION.

DR. WISE said that not having seen the original growth of hair, it was very hard to give a definite opinion. He thought Dr. Geyser's results were excellent and there were no signs of damage of any kind from the X-ray, in this patient. As regarded the scar, in his experience every Armenian he had seen presented a scar of that kind on the face and scars of the Aleppo boil were very common. The speaker said that active Aleppo boils, however, were very rare in this country, in his experience.

DR. OULMANN, in regard to X-ray treatment of hypertrichosis, said that the usual reports they received were not as satisfactory as in this case of Dr. Geyser's. The speaker did not particularly advise it himself, because, judging by some of the results, he could not approve of this method.



DR. MOUNT said he had seen one case of the so-called Aleppo boil, but it was not a boil in any sense of the word. The patient was an Italian who had never been outside of Italy, except on journeying to this country. He had fallen and injured his forehead and had come to the Cornell Clinic with a verrucous, slightly raised, oblong area in the centre of the forehead, with absolutely no ulceration of any kind. A diagnosis was made by almost everyone there of verrucous tuberculosis, and the speaker took out a piece and sent it up to Dr. Ewing, who reported that the Leishman-Donovan bodies were present, and it was a case of so-called Aleppo boil.

DR. GOTTHEIL said he wanted to congratulate Dr. Geyser on his small consideration for consistency. He had heard Dr. Geyser say before this Society that he considered the X-ray treatment for hypertrichosis unreliable.

DR. MACKEE said, relative to X-ray treatment, that he did not think any technique had been so far established that could produce uniformly good results in hypertrichosis, although it was possible to obtain good results in some cases of hypertrichosis with the X-ray, without damage to the skin. It was a risky thing to attempt. The slightest erythema might be followed a year later or even longer, by teleangiectasia or even atrophy. The speaker did not think it was safe and was opposed to the X-ray treatment of hypertrichosis.

DR. OCHS said, regarding radium treatment of hypertrichosis, that one of his patients had lately had some radium treatment on some parts where there was a hair growth. The hair had been destroyed—there was no trace of it at all and it had not returned. He spoke to another doctor about this, who had treated cases with radium, and who said it was successful in taking off small hairs which appeared in patches.

DR. MACKEE said that Dr. Ochs' statement about radium was true. But radium, in this condition, was no more efficacious and just as dangerous as the X-ray.

#### EPITHELIOMA SERPIGINOSUM. Presented by DR. OULMANN.

The patient was a male adult, who had been under treatment for two weeks. He had been treated at different places for the past five or six years and showed a large ulceration at the back part of the left ear. There were a number of superficial ulcerations on the scalp and a number of scars on the neck and further down the back. The doctor who had referred him stated that a number of Wassermann reactions had been negative and the lesions had been thought to be of a tuberculous nature, but in the speaker's opinion it was a case of epithelioma serpinosum.

#### DISCUSSION.

DR. WISE said that in his opinion this case would require microscopical corroboration.

DR. OULMANN said he hoped to obtain a biopsy, but did not know anything else which formed that kind of a scar and such superficial ulceration as this patient showed.

#### ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DRs. MACKEE AND ROSEN.

The patient was a female adult, and the speaker had had no opportunity to see the case before. She had come to Dr. Fordyce's service that day, for the first time. She was forty-nine years of age, born in Sweden, and the disease had begun fifteen years previously. The woman stated she had been under

Dr. Fordyce's care fifteen years ago. She presented the characteristic anetoderma of the knee and scleroderma of the lower portion of the legs. There was also a lesion on the left elbow and arm, consisting of a band of sclerodermatous and atrophic skin. The patient was the subject of a report published by Dr. Fordyce, seven or eight years ago, at which time she was under treatment for syphilis and cutaneous atrophy.

#### DISCUSSION.

DR. HOWARD FOX asked Dr. Wise if the disease seemed to favor any particular race. He recalled having seen three other cases in Scandinavians.

DR. GOTTHEIL said he had seen several cases of this kind in Jews.

DR. MACKEE said that one very interesting feature was the absolute freedom from lesions at the elbow flexures and in the popliteal spaces, in this patient.

DR. WISE said that Finger and Oppenheim had collected and analyzed about two hundred cases from the literature, without being able to find any ætiological factor. There was no racial predilection.

#### EPITHELIOMA(?) OF THE NOSE. Presented by DRs. HOWARD FOX AND OCHS.

The patient, M. W., was a colored woman, thirty-four years of age, born in the United States. The lesion upon the ala of the nose had existed for eighteen months, those upon the bridge and side of the nose had appeared during the past year. They had never ulcerated or caused any subjective symptoms. Examination showed a semi-solid elliptical mass on the edge of the right ala nasi, near the septum. Upon the bridge and sides of the nose were about ten pin-head sized, flattened, slightly elevated, non-itchy, dry papules with depressions in the centre, similar to those seen in lichen planus papules. The patient was poorly nourished and in poor health.

#### DISCUSSION.

DR. ROSEN said the case was one of juvenile warts. The lesion on the nose was probably a wart that had been scratched and ulceration had followed.

DR. OCHS said that when he had first seen the case, juvenile warts had been his diagnosis. He had seen many cases with these small warts, and in his experience among the colored, this would be the second case of epithelioma he had seen. The only other case he saw was in a colored woman who showed epitheliomatous degeneration of a large gumma of the thigh. They did not make a biopsy in this case because the lesion was so small, and if it were done, they would excise the whole thing. His diagnosis was epithelioma.

DR. SATENSTEIN said there were two other conditions to be considered. Instead of ordinary epithelioma, it could be benign cystic epithelioma, considering the small lesions; the other consideration was the possibility of lymphangioma. The lesion on the nose was very soft and the lesions on the face were very soft, and these two conditions should be considered as well as epithelioma.

DR. MACKEE said he agreed with Dr. Satenstein and would seriously consider a diagnosis of benign cystic epithelioma. The speaker had a case with lesions like this, over the chest and back, in a negress. Histologically, the case was one of benign cystic epithelioma. It was impossible, in spite of prolonged and careful study, to determine the derivation of the cells. In all probability it was a nevus.

## SYPHILITIC PERIOSTITIS. Presented by Drs. HOWARD FOX AND OCHS.

The patient, E. C., was a colored woman, twenty-eight years of age, born in the United States. She had had two miscarriages. About two and a half years ago, the middle finger of the left hand became enlarged and painful, and about a month ago, an ulceration had appeared upon the side of the finger. A radiogram showed syphilitic periostitis of the first phalanx of the middle finger, having the shape of a truncated cone, with its base at the metacarpo-phalangeal joint. The Wassermann reaction was strongly positive.

## DISCUSSION.

DR. GOTTHEIL said that this did not look like a case of syphilitic disease of the periosteum of the bone, while the ulceration which was present looked suspicious. He was inclined to consider a diagnosis of tuberculosis.

## SYPHILITIC PERIOSTITIS. Presented by Drs. HOWARD FOX AND OCHS.

The patient, A. N., was a woman, twenty-nine years of age, born in the United States. She had been infected with syphilis four years ago, for which she had received irregular and insufficient treatment. She presented a diffuse, painful, hard swelling along the right ulnar bone, just above the wrist. This had first appeared two years ago, but improved greatly of late, under mercurial injections. A radiogram showed a typical syphilitic periostitis. The patient also presented a small group of nodules upon the side of the nose. The Wassermann reaction was strongly positive.

## STRIÆ LINEARIS. Presented by Drs. GOTTHEIL AND OCHS.

The patient was a female, twenty-eight years of age. The lesions began with itching and then, from twenty-four hours to a week later, a depressed, scar-like lesion formed, which, after that, became striate. The skin itself was not red, œdematous or infiltrated, and the linear, atrophic condition seemed to arise from an unknown cause. The lesions were particularly well marked on the cheeks, left side of the nose and chin. No acne could be elicited to cause the condition.

## LICHEN HYPERTROPHICUS. Presented by Dr. GILMOUR.

The patient was a male adult. Eighteen months previously, there appeared a small, red, itchy patch at the inner side of the left thigh, over and above the internal malleolus. After six months it became raised and reached the size presented. Formerly it had been more raised and rough. The patient did not give a history of having had typical lichen planus papules. There was a moderately raised, smooth patch, over and above the internal malleolus, six inches long and two inches wide. It had a reddish color with a bluish tinge. A few small papules were seen around the edge of the patch.



## BOOK REVIEWS.

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DISEASES OF THE SKIN. BY RICHARD L. SUTTON, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine; Former Chairman of the Dermatological Section of the American Medical Association; Member American Dermatological Association; Assistant Surgeon, United States Navy, Retired; Dermatologist to the Christian Church Hospital. With six hundred and ninety-three illustrations and eight colored plates (916 pages). St. Louis: C. V. Mosby Company. 1916.

Considering the rapid multiplication, in recent years, of text books, theses, monographs, etc., dealing with the science of Dermatology, the advent of a new text book calls to mind the hackneyed and oft-repeated introductory periods of the preface of many a book,—remarks which, after being “boiled down,” amount to this: That no book should be written unless the author has something new to say, or unless he can present something already known, in a new and original light.

That Sutton has succeeded in complying with both—instead of only one—of these requirements, is a gratifying fact. The writing of a complete and good text book on dermatology and syphilology must at all times be a Herculean task; more so in this, perhaps, than in any of the other—more stable—branches of medical science. The author's intimate knowledge of the subject in its many-sided practical and scientific aspects, coupled with an unusually large personal experience gained in the practice of the specialty, presaged the writing of a book which not only is complete in every detail as a student's text book, but which, with its many references to recent literature, constitutes a valuable source of information to the advanced dermatologist. These references are, in the opinion of the reviewer, a most valuable part of the work, compiled as they are, with great care and accuracy, and being brought up to date in connection with all the important dermatoses. An interesting and unusual feature lies in the fact that the majority of these references direct the reader's attention to the scientific work and literary efforts of *American* dermatologists, in striking contrast to the text books of yesterday, most of whose bibliographies fairly teem with references to foreign names, foreign journals, foreign ideas, foreign interpretations, to say nothing of foreign dogmatisms. What a relief it is to most of us, to get hold of a reference in good old English, instead of having to wade through a maze of words, phrases and chapters in another tongue! To paraphrase the slogan of a popular newspaper, Sutton's treatise may be justly designated as “*an American book for the American student.*”

The latest facts and discoveries of modern dermatology and syphilology are presented in the text, which includes in its scope all the diseases and anomalies of the skin and adjacent mucosæ. The construction of the sentences, while forcible and concise, is at the same time not so much so as to make the reading tiresome or disagreeable.

In recognition of the ever increasing importance of the microscopic findings in skin disorders, Sutton devotes more space to histopathology than has yet been attempted in modern American text books. In some of the more interesting dermatoses, as in syringocystadenoma, for example, the histopathological changes not only are described fully, but a brief résumé of the findings of other authorities is included, enabling the student who seeks something more than the bare facts, to obtain much information from the text alone, without having recourse to other works.



Full consideration is given the large subject of treatment, most of which is based upon the author's personal experience. Radiotherapy, vaccines, carbon dioxide, etc., etc., are dealt with in comprehensive fashion under separate headings.

The classification of skin diseases is based upon Hebra's plan, modified slightly by Crocker.

One of the striking features of the treatise lies in its generous supply of half-tone illustrations and colored plates; the most carping critic will concede that these are admirable photographic reproductions, and that their presence in a book of this kind is of considerable value to the student and practitioner.

Several diseases are for the first time pictured in a text book, among them being uña or espundia, cutaneous thrush, foot-and-mouth disease and trichinosis.

The many half-tone photographic cuts depicting the histopathological changes of numerous dermatoses, constitute an item of great importance and much value, accompanying, as they do, the adjoining text. Nearly all these cuts are reproductions of the author's own microphotographs and testify to many laborious hours spent in the dark-room.

The book contains 916 pages, is printed on heavy glazed paper and is necessarily somewhat cumbersome. The type is large and well spaced. The index is well compiled and generous in its scope.

F. W.

LINKS IN A CHAIN OF RESEARCH ON SYPHILIS (OXIDATION AND REDUCTION). Being the Hunterian Lectures Delivered Before the Royal College of Surgeons, March, 1916. By J. E. R. McDONAGH, F.R.C.S. pp. 206. *Harrison and Sons*, London, 1916; *Lea and Febiger*, sole agents for United States and Canada; \$7.00.

After a short résumé of the advances in our knowledge of syphilis since the eighteenth century, the author proceeds to review his contentions that the *Spirocheta pallida* is only a phase in the life history of a protozoön which he calls *Leucoeytozoön syphilides*.

His investigations are of a physico-chemical nature and prove to him and his co-workers that the same principles which play an important rôle in dyeing and staining, underlie the immunity reactions and chemotherapy, *i.e.*, adsorption, oxidation and reduction.

The emulsoid-suspensoid test for syphilis is based on the exact colloidal state of the antibody, and it is claimed by the author to be more reliable than the Wassermann reaction or any of its modifications. By the addition of glacial acetic acid to the luetic serum, part of the emulsoids present become converted into suspensoids through the loss of some of their water contents; the further addition of ammonium sulphate precipitates the suspensoids. As syphilitic serum is richer in lipid globulin (emulsoids), it will give a more marked precipitation than other sera, which can be detected by the naked eye. He has had one hundred cases tested and controlled by the Wassermann reaction. One case gave a three plus Wassermann, although the patient had never had syphilis; by the emulsoid-suspensoid test, the serum was normal. Seventeen of the one hundred cases gave a negative Wassermann reaction when the test should have been positive.

The chemotherapy of syphilis is, according to the author's theory, based on the amount of active oxygen which, if increased, increases the host's resistance and thus destroys the parasites indirectly. Salvarsan acts this way by catalysis. In fact he endeavors to explain many conditions as due to want of active oxygen, even piles.

Of all the arsenic preparations, as atoxyl, arsacetin, arseno-phenyl-glycine, galyi and ludyl, salvarsan is conceded to be the best; but far from perfect. In order to get a more effective remedy against syphilis, he was led to look for elements which are trivalent but of smaller atomic weight and less metallic than arsenic. Such he finally elaborated in di-ortho-amino-thio-benzene, commercially called "intramine"; also an aluminum compound called "aluvine," and an iron compound called "ferrivine." He uses these three drugs as adjuvants to each other and sometimes with salvarsan, depending on the stage of the disease. Mercury and iodides are also called on for assistance.

Intramine is recommended not only for lues but also for lupus vulgaris, chronic gonorrhœa, chronic ulcers, malignant disease, leprosy, tuberculosis, and as a dressing for wounds.

An interesting explanation of the therapeutic action of the breast milk from a woman receiving salvarsan, and that of salvarsanized serum, is that catalysts in the minutest traces can have phenomenal activity; for instance, the merest trace of platinum black, if added to a tank full of hydrogen peroxide, is sufficient to decompose the whole amount.

The reader must be referred to the book in order to get a proper conception of what the author is trying to prove, as the lectures are a series of *post hoc ergo propter hoc* dissertations, in which colloids, electrolytes, oxidations and reductions figure prominently. It is by no means an easy matter to follow him, putting together the links of the chain of research on syphilis.

The work needs confirmation, and the author is right in asking it from those who refute his statements. Although his conclusions are a little heretical, nevertheless there is a good deal of sense in his reasoning, and one is led to admire the accomplishments of Dr. McDonagh, for he is a veritable medical Thesaurus.

Throughout the book there is a tendency to belittle the epoch-making discoveries of Schaudinn, Wassermann and Ehrlich; even going so far as saying that the last mentioned was entirely ignorant of the principles which govern chemotherapy and of the action of the compounds prepared. One can't help but lamenting the "Hass" that the European holocaust is beginning to sow among some of our continental colleagues.

E. W. A.

THE HEALTH OF THE SKIN. By GEORGE PERNET, M.D. Methuen's Health Series. Edited by N. Bishop Harman, M.B., F.R.C.S. *Methuen and Co., Ltd., London.*

This is one of a popular series on "Health," quaintly written, and containing many valuable pointers and interesting statements in reference to the subject at hand.

The use of deep red goggles to prevent freckling, by excluding the action on the retina of the chemical or actinic rays of the sun, is a novel suggestion.

The ladies will be delighted to hear an authority like Dr. Pernet, not objecting to the application of rouge; and no doubt, a few will forget his caution to use good quality only, carefully, and in moderation.

He advocates the running of the hair-dressing parlors on "aseptic lines," something much to be desired by everybody, except the tonsorial despots.

Exception may be taken to the remark on page 97, that an ingrown toenail is usually due only to inattention to the periodical cutting and trimming. Isn't it more usually due to tight boots or stockings, or in the case of the finger, to a tight-fitting glove?

For a little book of 105 pages it covers the subject remarkably well, and should make a valuable addition to the lay library. Even the practitioner could garner some useful points by its perusal.

E. W. A.

# THE JOURNAL OF CUTANEOUS DISEASES

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## ORIGINAL COMMUNICATIONS.

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### ACNITIS IN THE NEGRO.\*

BY FRANK CROZER KNOWLES, M.D., PHILADELPHIA.

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THREE excellent papers have been written upon the subject of acnitis by American authors; the first by Pollitzer in 1892, the second by Schamberg in 1909, and the third by Ketron in 1915.

The subject of acnitis still offers a considerable field for elucidation. If one glances over the various terms that have been applied to the condition, the chaotic state of our understanding of the disease can be readily realized. A capitulation of the various cognomens applied to the outbreak, although already mentioned in other publications, would prove interesting. T. Fox termed the condition follicular lupus; Kaposi gave the disease the name *acne teleangiectoides*; Crocker that of *acne agminata*; Pollitzer named it *hidradenitis destruens suppurativa*; Pringle called it "A Rare Seborrhœid of the Face"; Ketron states that other titles, such as colloid degeneration of the skin, *acne luposa*, *lupus miliaris*, and *varus nodule*, have been applied. Barthélemy, however, was the first to designate the term acnitis, as applicable to the affection.

\* Read before the 40th Annual Meeting of the American Dermatological Association. Washington, D. C. May 8 to 10, 1916.



The titles used as descriptive of the disease show that the field is divided as to whether the affection should be classed under those conditions related to tuberculosis of the skin, or should be viewed as a distinct entity. Investigations which would prove conclusively that the disease was related to tuberculosis cutis have been, in most instances, negative. Finger recorded the fact that one of his patients with the affection gave a positive tuberculin reaction and also developed a tuberculous meningitis during treatment. Ketron mentions that in fifty histological preparations, two organisms resembling tubercle bacilli were discovered. Besnier reported a positive inoculation test; the animal, however, did not die until three months after the injection. Jadassohn has recorded the most suggestive findings; his patient gave a positive tuberculin reaction and inoculation of animals proved successful. A tuberculous proctitis was observed in his case. Ketron's bacteriological results were entirely fruitless. Gilchrist, Schamberg, and also Pollitzer had negative findings, notwithstanding their careful investigations. Fox's cases were all delicate and one had been "threatened with phthisis" several years before the onset of the disease.

#### CASE REPORT.

There came to the skin dispensary of the Pennsylvania Hospital, in February, 1915, a negro, having a poor physique, aged twenty-six years, and born in the South. According to the patient, the present eruption developed on the face six months before his visit to the clinic, has been persistent, and new lesions have been appearing more or less constantly. The outbreak is limited to the face and the neck and is most marked on the lower portion of the cheeks. There are fully two hundred lesions present, a few of which surround the mouth and are on the vermilion surface, close to the mucocutaneous junction. They vary in size from a small pinhead to a split-pea and are of a dark-red color with a little yellowish tinge; the exact shade of color is difficult to ascertain because of the jet-blackness of the negro's skin. The lesions are mostly of a papular or nodular type, a few are undergoing central necrosis, some have a very slight scale, others a minute crust, on the surface, but none is of a distinctly pustular variety.

A careful physical examination was made and the lungs gave suggestive signs of a beginning tuberculous process, although no bacilli were found in the sputum. The von Pirquet test gave a positive result. The Wassermann test was negative. Smears and cultures made from some of the lesions showed only staphylococci. Unfortunately, the patient, like so many of the negro race, absolutely refused further manipulation than the excision of two lesions from the neck, which restricted our investigation to a histological study and prevented inoculation experiments.

There was a sufficient amount of material to cut approximately one hundred sections; almost one-half of this number was examined for the tubercle bacillus. The result was unfortunately negative in our search for this organism.





FIG. 1.

**HISTOPATHOLOGY.** The epidermis was found practically normal, excepting for the lengthening of a few rete pegs, and for the fact that the growth had broken through one small portion of this layer.

The corium showed a considerable number of cell masses, particularly prominent in the middle and subpapillary portions of this layer. These cellular infiltrations were of a rounded and longitudinal formation, varying considerably in size. They consisted of three distinct types of cells; small round cells, resembling those seen in ordinary inflammation; epithelioid cells; and large multinucleated cells, apparently giant cells. The cell masses were arranged in distinct groups, with, in a considerable number of instances, a well defined border. The corium between some of these cell infiltrations was absolutely normal. These groups of cells consisted of from a dozen or more, up to hundreds. There was a distinct tendency for the central portion of the cell infiltration to exhibit numerous giant cells, with epithelioid cells interspersed and surrounding the same, and a large number of small round cells forming the circumference. Although this was the dominating tendency of the growth, in some sections the major portion of the infiltration consisted of giant cells, in others epithelioid cells, while in still others there were almost exclusively small round cells. There was an increase of fibroblasts, surrounding some of these cell areas. Plasma cells were absent and mast cells were present in normal numbers.

Giant cells were present in large numbers, mostly in groups; as many as

twenty or thirty were seen in a single field. They were mostly of a rounded conformation, although some were oval or elongated. From a half dozen to twenty nuclei were observed in each cell, and they were arranged mostly around the entire circumference; but in others there was a segmental distribution. Occasionally a giant cell was seen, in which nuclei were also present in the central portion, as well as peripherally. A few giant cells were observed entirely alone in the corium, without the usual accompanying epithelioid and round cells. The giant cells varied tremendously in size, some being almost double the dimension of others. Very few of these cells conformed to the Langerhans type, but were probably of thrombosed blood vessel origin.

The growths were well supplied with blood vessels, both peripherally and running into the cellular infiltration. This central supplying of blood to the cell masses was, however, observed only in the beginning lesions. In the older lesion there was a distinct tendency toward coagulative necrosis in the centre of the growth. Some of the growths could be distinctly seen to lie in the course of the small blood vessels; two or more vascular branches from these channels were plainly visible, running into these infiltrations. The blood vessels were widely dilated, and quite a number of them were surrounded by small round cells, in some instances apparently continuous with the growth into which they ran. The endothelial linings of the vessels were quite swollen. Some of the sections showed considerable œdema of the tissues and widening of the lymph spaces and channels.

The hair follicles and the sebaceous glands were closely surrounded by some of the growths, but showed but little involvement. The sweat glands also, excepting for a slight infiltration with round cells, in some instances, were practically normal.

Pustulation in one of the excised lesions gave rise to a mass of leucocytes which presented a typical picture of an acute inflammatory process.

There is a great diversity of opinion as to the derivation of the pathological process observed in acnitis. Pollitzer considers that the affection is of sweat gland origin and that both the giant cells and the nests of epithelioid cells were derived from these glands. Pernet also believes that the fault lies in the sweat glands. Barthélemy is of the opinion that the process begins at the base of the hair follicle. Schamberg, Spiegler, and Finger found the diseased process in close proximity to both the hair follicles and the sweat glands. Jesionek found the cellular infiltration surrounding the hair follicles, sweat and sebaceous glands, although suggesting that it might have had its origin in the blood vessels surrounding these organs. Ketron apparently has traced the origin of the growths, in his case, from the small vascular channels which run into the growth.

The sections examined by the writer in the present case are very suggestive of blood vessel origin, as found by Ketron, notwithstanding that the cellular infiltration is found, in some instances, in close proximity to or actually involving, the hair follicle, sebaceous and sweat glands. It has been extremely interesting to compare sections from so-called sarcoid and lupus vulgaris, with the present case; and the resemblance between

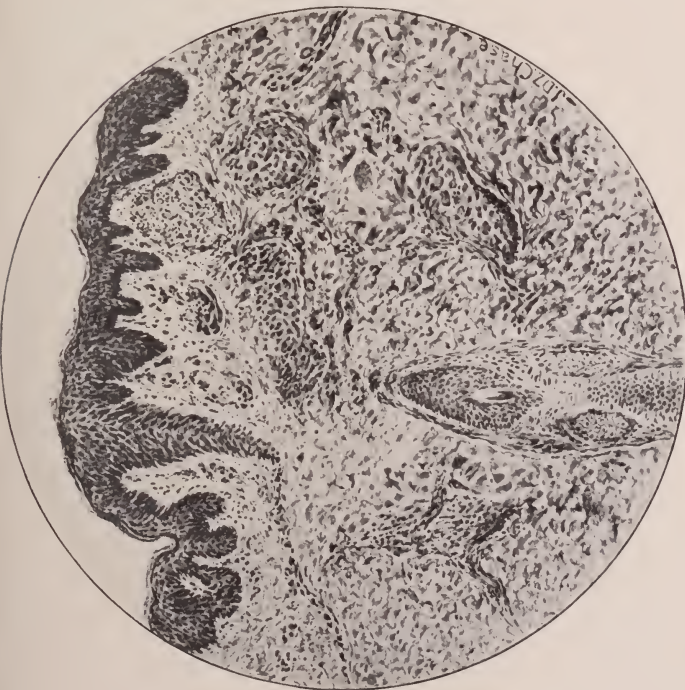


FIG. 2.

Shows several cellular masses of a rounded and elongated conformation, composed of round, epithelioid and giant cells. Numerous dilated blood vessels with a surrounding infiltration. These blood vessels in several instances can be seen running into the growths. One large giant cell, separated from the other cells, can also be seen. There is also a beautiful section of a hair and sebaceous gland seen in the field. The pigment in the negro's skin is also well shown in the lower portions of the epidermis.

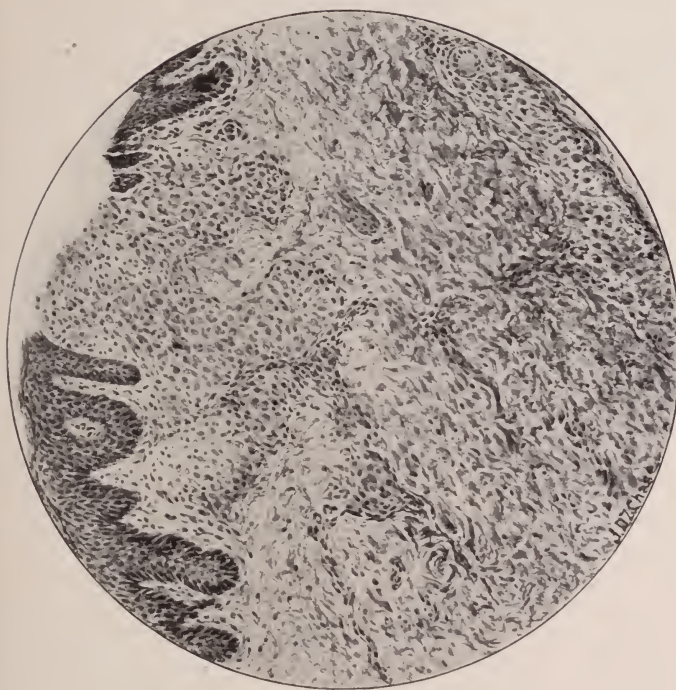


FIG. 3.

Shows where the epidermis has been broken through by the cellular growth. Widely dilated blood vessels radiating into the growth. Other portions of the cellular infiltration are seen without a central blood supply. Round, epithelioid and giant cells are also seen as in the former section. Fibroblasts are also present in increased numbers. Two particularly large giant cells are seen, one in the elongated cellular infiltration and another entirely alone. The pigment in the negro's skin is also well shown. In both sections it is clearly presented that the majority of the giant cells conform to the thrombosed vessels.







the three is very marked, notwithstanding that the consensus of opinion points toward the inflammatory nature of acnitis and that there are very few giant-cells of the typical Langerhans type present, but mostly those conforming to the thrombosed vessel variety.

In conclusion, it might be stated that four months after the patient came under observation, all of the active lesions had disappeared, some having undergone involution without the production of scars but the majority leaving round, oval or irregularly shaped, pit-like cicatrices. The mild applications and X-ray treatment employed, apparently had little effect upon altering the course of the affection.

This is the first case of acnitis that has been reported as occurring in the negro, in so far as the writer has been able to ascertain.

#### REFERENCES.

- POLLITZER. *Jour. Cutan. and Gen.-Urin. Dis.*, 1892, p. 9.  
SCHAMBERG. *Jour. Cutan. Dis.*, 1909, p. 14.  
KETRON. Johns Hopkins Hospital Bulletin, April, 1915.

#### DISCUSSION.

DR. HARTZELL thought it unfortunate that it had ever been called acnitis, a name which meant nothing. We knew little or nothing about the real nature of the affection; although it resembled in some of its histological features, tuberculosis; in others it differed from that infection. It was apparently a self-limited disease, which would hardly be the case if it were tuberculous. Some of the giant cells presented in the lesions were not of the Langerhans type, but probably transverse sections of occluded vessels.

DR. WILE wished to call attention to the fact that several years ago he had reported a case of papulo-necrotic tuberculide in the negro, associated with lupus erythematosus. The speaker believed that they would soon have to give up the interpretation of tuberculide as it was now understood, in favor of the view that all such lesions were actually true tubercloses, occurring in different forms.

DR. KNOWLES said he had not thought of their differentiation in the end, as he had just read the resemblance to tuberculosis cases. It was extremely hard to understand the tuberculous nature of the lesions and of the difference in the cells present. In some, the typical Langerhans cells would be entirely absent. They found, clinically, that there seemed to be a tremendous difference as to their number and distribution.

## FURTHER OBSERVATIONS ON SO-CALLED WHITE SPOT DISEASE OR SCLERODERMIA CIRCUMSCRIPTA.\*

BY FRED WISE, M.D., NEW YORK, AND I. ROSEN, M.D., NEW YORK.

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### INTRODUCTION.

IN a paper published three years ago in the *JOURNAL OF CUTANEOUS DISEASES*, we† expressed the opinion that the recorded cases of so-called white-spot disease fall into two groups, namely, the lichen planus sclerosus group and the sclerodermia group. This conclusion was based upon a perusal of the literature and an analysis of case reports dealing with the two affections, together with a study of our own material.

On the first contemplation of the subject, our minds were open to the question of a possible relationship existing between lichen planus sclerosus and circumscribed sclerodermia, or morphœa guttata. Additional clinical observation and microscopic study have strengthened our conviction regarding the duality of these dermatoses; out of the confusion of impressions, certain conclusions resolved themselves clearly. It must be conceded, however, that instances have been recorded, notably those of Fordyce,<sup>1</sup> Ormsby,<sup>2,3</sup> Hazen,<sup>4</sup> Riecke,<sup>5</sup> Herxheimer,<sup>6</sup> Hoffmann,<sup>7</sup> Fischer,<sup>8</sup> and Bizzozero,<sup>9</sup> in which a strict differentiation entails the consideration of subtle distinctions, clinical as well as histological, with reference to one or the other type of disease. At present, we can only mask our vague conceptions of these cases by saying that they must be classed among the "transitional" or "connecting link" types of dermatoses. To avoid the danger of admitting materials not germane to the whole subject, it is best, at the present time, to accept the views of the majority of investigators. These views have been summed up in a statement which we quote from our<sup>17</sup> first paper on the subject, namely, that "the consensus of opinion among writers is overwhelmingly in favor of recognizing two distinct groups of diseases giving rise to 'white spots.' The first group comprises white-spot disease, morphœa guttata or circumscribed sclerodermia; the second group is represented by lichen planus sclerosus and atrophicus, a condition conceded to be identical with lichen albus. The first group belongs to the sclerodermia family, the second to the lichen planus family. Cases of the 'transitional' type

\* Read in abstract before the 40th Annual Meeting of the American Dermatological Association, Washington, D.C., May 8 to 10, 1916.

† MACKEE, GEORGE M., AND WISE, FRED. White Spot Disease. *Jour. Cutan. Dis.*, Sept., 1914, xxxii, No. 9, p. 629.

may require further study in the different stages of their evolution, but there is little doubt that ultimately they will be relegated to one or the other of the two groups mentioned above."

The propriety, in selected instances, of the name "white-spot disease," has been impressed upon us by certain examples of sclerodermia guttata which we have encountered at various clinics and dermatological societies. Granted that these peculiar cases are merely bizarre forms of circumscribed sclerodermia, or scattered and confluent patches of morphœa, it is nevertheless undeniable that certain examples of the affection exhibit lesions of such a striking intensity of whiteness, as compared with ordinary sclerodermia, that no designation more fitting than "white-spot" can be applied to them; even to the untrained eye, their color presents a marked contrast to the ordinary yellow, yellowish-white, or pearly-gray of the more common forms of morphœa guttata. This difference in the color tone was especially notable in a comparison between the pearly-gray lesions presented by the subject of the present report, and the pure white lesions described in our first patient (MacKee and Wise). In both patients, it is true, the color of the spots may be said to be white; but while those of the former present the ordinary yellowish-white and pearly-gray of sclerodermia, those of the latter simulate little discs of pure white paper, imbedded into the skin. This difference in the degree of color may explain the unwillingness of certain authors (who may never have encountered an instance with glaring white spots) to employ the term white-spot disease in the description of their cases.

Unna <sup>10</sup> believes that the white color in his "card-like" sclerodermia is in part due to refraction from the subepidermal vacuolization existing in some lesions. He states that "the disappearance of the vessels, with persistence of the collagenous tissue alone, would lead only to a waxy-yellow, somewhat transparent color, something like diffuse sclerodermia, old keloids, the keloid-like sclerodermia and so on; i.e., the color of dead, anæmic skin. The *chalky*-white change indicates something more, namely, marked refraction from a white background." But it is probable that other factors are also involved in the production of this phenomenon, for some of the sections which have been examined, taken from white spots, present little or no vacuolization.

In the consideration of this subject it should be stated that the terms sclerodermia guttata, sclerodermia circumscripta, morphœa guttata, Unna's card-like sclerodermia, etc., are employed to designate the same clinical entity, and that white-spot disease may be regarded merely as a sub-variety of the same affection.



## RECENT REPORTS OF SCLERODERMIA GUTTATA.

Since 1914, several reports on sclerodermia guttata have appeared, among them being those of Pernet,<sup>11</sup> W. K. Sibley,<sup>12</sup> J. L. Bunch,<sup>13</sup> Silva Jones,<sup>14</sup> A. Breda,<sup>15</sup> and E. Bizzozero.<sup>9</sup> The papers of the last three authors contain histological investigations of their cases, making them more valuable for comparative study.

F. SILVA JONES AND H. M. TURNBULL. SCLERODERMIA GUTTATA. The case that I am bringing forward is that of a woman, aged 55 years, who was an in-patient at the London Hospital, in March, 1909, and treated as being a doubtful case of alcoholic poisoning. She was complaining then of pain on being touched, especially on the abdomen and on the calves of the legs; she had also a prolapse of the uterus. She improved with rest and treatment. At this time she gave a history of a severe fall, three years previously, the abdomen and both legs being badly bruised, and of never having been well since. The accident was followed by pain in the stomach. Her knee jerks were glib and her plantar reflexes were flexor. The patient's father died of asthma when she was 18 months old; her mother is alive and was well until two years ago, when she had bronchitis; her age is 80. One brother died of consumption, aged 30. She has five sisters, alive and well. She has had three children, but lost two in confinements; the remaining one is alive and well; she has had one miscarriage.

On April 29, 1915, when I first saw her, she complained of pain in the abdomen, coming on every two to three months, and a band of pain around the forehead. She had a fat, full face, suggesting an alcoholic habit, although she denied alcoholic excess at any time, and stated that for the last eight years she has taken no alcohol at all. She was garrulous, and there was a good deal of over-action in her face, when talking. The heart and lungs showed nothing abnormal; the liver was not enlarged. On palpation of the abdomen, there was pain all over, reaching as high as the costal margins; a pulsating aorta could be felt. The pupils were equal, reacted to shading and the eye movements were good. The palate and the sclerotics were insensitive to touch. The cranial nerves showed no abnormality. The knee jerks were glib and equal; sensation was good over the legs; the plantar reflexes were flexor; clonus was not present; passive position was good, and the calves were slightly tender on deep pressure. There was no sphincter trouble. There was no history of syphilis, and the Wassermann reaction was negative.

On the right side of the abdomen, between the umbilicus and the groin, in the area corresponding to part of the distribution of the tenth dorsal root, and not extending over the middle line, was an area, 9.5 cm. by 3 cm. at its widest part, in which were some seventy individual lesions of a pearly-white color, let into the skin like a mosaic, flush with the surrounding skin, some discrete, others joining with the neighboring spots to form an irregular pattern; where fusion was present, on pinching up the skin, the division could be made quite plain. Most of the solitary lesions were about the size of a pinhead, and between them, except where they join, was a band of normal skin. Each plaque was indurated, showed no umbilication, was anæsthetic and showed no inflammatory zone around. The indurated skin, on moderate pressure, retained its mosaic-like structure, but bent on firmer pressure. Above the whole lesion, and extending to the upper and inner and to the upper and outer ends, was a border of very fine teleangiectases, well seen in Fig. 1, 1.5 mm. in width. In about half the number of the separate lesions were one or two minute teleangi-



ectatic red spots; in one instance, two connected by a fine red line. A portion of the affected skin was removed for microscopical examination. On the left leg, just below the knee, on the outer side, was a second group of lesions, 4 cm. by 7 cm., extending diagonally down and out, of a more or less square shape, particularly at the lower end, in the skin area supplied by the fifth lumbar root (Fig. 2). The individual spots numbered about forty, and in one lesion only, there was a minute teleangiectasis. Several of the spots appeared umbilicated and there was no inflammatory areola. In two instances, the spots tended to coalesce and form larger masses than in the abdomen, the largest measuring one cm. square and the other about one-half that size. There were a few scattered teleangiectases in the leg in this region, but they bore no apparent relationship to the lesions. The spots on the leg were not so white as those on the abdomen, the induration was not so marked. The characteristics were similar, but they did not show up in such a decided manner. In the centre of the patch, and showing in Fig. 2, were two raised papules of a brownish color. The patient's own account was that the white spots appeared as a papule first; they then irritated, were scratched, and died away, leaving a white spot. One papule was removed for examination. The area on the leg had not been present for more than three weeks, in its present size. Formerly there were only a few spots, and the patient had her attention drawn to them by the irritation. On Sept. 22, 1915, the lesion was about the same size; there was a scar across the lesion, where the portion had been excised; the remaining papule had disappeared, without, I think, leaving a white spot behind. The scar had altered the relationship of the spots, and it was not possible to be certain as to this point. In the older lesion on the abdomen, the case appears to differ clinically, from any of the reported cases in the literature, in its association with teleangiectases, which appear around the upper, inner and outer margins of the lesion, and which are also seen in the spots themselves, facts which are brought out in the accompanying photograph. The spots on the leg differ from those on the abdomen, because:—some have coalesced to form a larger area; they are not so white in color; some are umbilicated; the induration is not so marked; in only one white spot is there a teleangiectasis; although there are a few scattered teleangiectases in this region, they have no apparent relation to the lesion itself. Dr. Turnbull has kindly examined the two portions of skin removed, and his report is as follows:

(DR. TURNBULL'S SUMMARY OF THE HISTOPATHOLOGY.) The main features in the sections of the first specimen are: A perivascular infiltration of the dermis, which is either confined to a narrow zone round vessels, or forms large cellular patches; proliferation of fibroblasts and destruction of elastic fibres in these patches; widening, congestion, and a hyaline degeneration in and around the walls of many vessels in the outer part of the dermis; the presence of sclerotic fibrotic areas in the papillary and adjacent outer portions of the dermis, either in the form of narrow zones round vessels or of large lenticular regions; the frequent presence of patches of infiltration at the borders of these sclerotic areas; the scarcity of elastic fibres of normal thickness in the areas, and the presence of abnormally fine elastic fibrils in a few; the presence, in the sclerotic areas, of vessels which show abnormalities similar to those in other portions of the dermis; the inclusion of portions of sweat ducts in the sclerotic areas; cystic dilatation of sweat ducts in the deeper part of the dermis; groups of very large, multinuclear giant cells immediately beneath, or against the side of, the sclerotic area.

These features would appear to be explained best on the assumption that the dermis is the seat of a chronic inflammation which is excited by some damaging agent, brought by the blood stream. The sections afford no evidence that

this agent is a bacterial product. The agent causes necrosis of the walls of vessels, particularly the capillaries in the papillary zone, and excites a reaction in the surrounding tissue, which leads ultimately to the formation of dense scar tissue. As in other scar tissue, the original elastic is destroyed and a later formation of new elastic fibres is demonstrated by the appearance of abnormally delicate fibrils. Owing to the presence of scar tissue in the outer zone of the dermis, sweat ducts are constricted, and their dependent parts become cystic. Portions of sweat ducts or other epidermal appendages are destroyed by giant cells. Unfortunately, the small size of the specimen, and the destruction of the greater part of the original block by a partially trained servant, did not allow the above explanation of the pathological process to be proved or disproved, by serial sections. The groups of large, multinuclear giant cells resemble those which are sometimes found in operation scars. In operation scars the giant cells may be found surrounding sweat ducts or other epidermal appendages. In the case under discussion it must be stated that no trace of any epidermal or other body was found among the giant cells.

The second specimen was removed in the expectation of demonstrating the earliest stages of the process. In this section, apart from slight perivascular infiltration, the only abnormalities were a large epidermal cyst and a slightly dilated sweat duct.

It is impossible to believe that the features seen in the first specimen were initiated by the formation of epidermoid cysts. The process might, however, have originated in an inflammation of epidermal appendages, and such an inflammation might have led, incidentally, to the formation of cysts. Such an origin appears most unlikely in view of the healthy appearance of the epidermal appendages in the non-sclerotic, but infiltrated, portions of the dermis in both specimens. Thus, there was no infiltration within or around the sweat ducts and glands; infiltration was only present round two hair follicles, and was slight in amount. It is more probable that the cysts in the second specimen were due to the process assumed above; that is, to involvement of their upper connections by areas of sclerosis. Unfortunately, the amount of tissue available for serial sections was not sufficient to reveal these connections. No areas of sclerosis were present in the sections obtained, but on macroscopic examination the finely wrinkled, white appearance of the epidermal surface indicated that sclerosis was present in parts of the specimen.

A. BREDÄ. SCLERODERMIA GUTTATA. The patient was born in 1842, married at the age of 23 years, and had given birth to six healthy children. Nothing abnormal was to be seen on examination, excepting the condition of the vulva. Several months after the cessation of the menstrual periods, she had been attacked by a severe and obstinate pruritus vulvæ, for which she came under treatment. On account of an existing leukokeratosis, a considerable portion of the vulva had to be excised, followed by thermo-cauterization of the parts. About three months later, some efflorescences appeared, first on the sides of the neck and, a few weeks later, on the chest. From being punctiform at first, the eruptions in a few weeks became lenticular, white, without areolæ, not raised above the skin level, and associated with slight itching. Without causing especial subjective symptoms aside from the mild pruritus, the eruption gradually increased, spreading posteriorly to the sides of the neck, beneath the clavicles and on the upper half of the mammary regions, with symmetrical regularity. They continued to be without areolæ or redness; they were white in color, not raised or prominent, but flattened, then depressed, round or oval, with regular margins, without visible pigmentation; the white color was of different shades, from opaque to slightly glistening, the glistening appearance

becoming gradually more pronounced. Depression rapidly developed, and the surface of the depressed areas appeared granular around the few remaining hairs, which dropped out as the condition progressed. No wrinkling of the epidermis was demonstrable over the small diseased areas, nor could the white spot be raised from the surrounding skin.

The patient returned to the clinic in 1907, on account of the recurrent vulvar pruritus. At this time, the white spots were practically all depressed and glistening; some few showed a follicular crust; in groups made up of scanty rows of papules, they surrounded the neck and passed down on the chest like a necklace, consisting of white glistening elements. In a general way, this condition remained unchanged until December, 1913. Examination at that time showed the patient to be in an excellent state of general nutrition. At the base of the neck, posteriorly, were seen two groups of spots, one on each side, about twenty in number, white, glistening, lenticular, round or oval, depressed in the centre, without hairs, without epidermal crusts. Between these two groups were about a dozen similar spots. From the middle of each clavicle, numerous white spots ascended towards the neck and descended towards the breasts. The groups on the right side were an opaque white, those on the left side were glistening white, the lower ones resembling mother-of-pearl. None of the spots showed scales which could be scraped with the nail. Wrinkling of the surface was absent. The chest and neck were devoid of hairs. Itching had always been present over the site of the lesions. Inspection showed atrophic depressions of the affected spots, but these could not be felt, on account of the stoutness of the patient.

**HISTOPATHOLOGY.** In the skin segment excised in 1907, the horny layer was thinned and showed imperfectly cornified cells, occasionally with stained nuclei (parakeratosis). At some points, the stratum corneum was separated from the granular layer, the latter being represented, practically throughout, by a scanty row of cells, containing keratohyaline granules. The reticulum was devoid of pigment and of mitotic figures; the spines were faintly stained; some of the basal cells showed a perinuclear oedema; there was no intercellular invasion of leucocytes. The papillæ were atrophied and their separation from the epidermis was marked by a slightly undulating line. In the papillæ, the vascular loop was surrounded by a moderate leucocytic infiltrate: the lymphatics were dilated; at the base of the papillæ, the infiltrate was still less marked. Infiltration was absent around the follicles, sweat and sebaceous glands. The elastic tissue in the papillæ was well preserved. Throughout the entire thickness of the skin, but especially in the superficial portion, the connective tissue fibres were increased and formed a dense layer, containing a scant number of connective tissue cells. The walls of the papillary vessels were surrounded by leucocytes, the lumina of the vessels were not enlarged, their endothelial cells were normal: oedema, karyokinesis, etc., were absent. In longitudinal and transverse sections, the walls of the blood vessels were seen to fuse with the newly formed connective tissue. Pigment masses and chromatophore cells were seen nowhere in the corium.

In the specimen examined in December, 1913, the horny layer was more loose than in the preceding section; the rete showed neither pigment nor oedema; its attachment to the derma was marked by a slightly undulating line. The nearly flattened papillary body was devoid of infiltration. The blood vessels and lymphatics were narrowed, their walls less distinct, but the endothelium was normal in appearance; the superficial elastic layer was normal. The connective tissue was more abundant and much thicker, and was fused with the outer coats of the blood vessels. The connective tissue fibres were disposed in a horizontal direction and were intersected by a normal amount of elastic tissue



fibres. Hairs were absent. The sweat gland ducts and sebaceous glands were few in number, surrounded by newly formed connective tissue, their epithelium being atrophic, although well stained.

Taken together, the preparations would seem to show a true inflammatory process, involving the papillæ and part of the reticular layer of the corium. This process, without exhibiting a true acute stage and without more than a barely demonstrable inflammatory œdema, nevertheless, had led to a gradual new formation of connective tissue, which, in its development, caused atrophic changes in the epidermis and the papillæ, as well as the appendages, while the elastic tissue remained unaffected.

A separation between scleroderma or morphœa guttata, and white-spot disease, may, up to a certain point, prove difficult, and perhaps rests upon personal impressions. In the author's opinion, it is doubtful if white-spot disease is entitled to rank as an affection of the skin, distinct from scleroderma guttata.

E. BIZZAZERO. SCLERODERMIA GUTTATA. The patient was a woman, aged 54 years. Her family history was negative. Her skin affection was of three years' duration and began during the menopause, in the course of which the lesions gradually increased in size. Subjective sensations were absent.

PRESENT CONDITION. The lesions are symmetrically disposed above and below the clavicles, extending backwards to the upper borders of the scapulæ. The elementary lesions are pinhead in size, level with the surrounding skin and have rounded borders. They are remarkable for their mother-of-pearl white color and their glistening surface. In addition, there are larger lesions with similar white, glistening surfaces and round and oval, well defined margins. Palpation does not reveal an increase in their consistency. Many of them show a punctiform depression, like the prick of a needle-point in wax. The overlying skin presents fine wrinkles, more evident when the lesion is put on the stretch, giving the impression of a redundant surface covering. The overlying skin can be removed *in toto*, revealing a smooth, mother-of-pearl surface, which rapidly becomes covered by a light-colored, serous fluid, without a trace of blood. None of the elementary lesions show a sign of pigmented halo. These efflorescences coalesce into two plaques, one on the right, the other on the left clavicular region, each accompanied by an area of pigmented integument. These plaques have the characteristics of the individual lesions; that is, they have a mother-of-pearl color, in some areas they are yellowish, possess a marked wrinkling of their surfaces and distinct punctiform depressions; but horny plugs are absent. The borders of some of the plaques present an indistinct bluish-white halo, which at times disappears, only to return for a time.

HISTOPATHOLOGY. An elementary lesion was examined and presented the following changes: The horny layer was thickened and compact, becoming wider toward the centre of the papule and dipping down into the dilated sweat gland orifice, assuming a lamellated structure. There were no signs of parakeratosis. The Malpighian layer was markedly attenuated, showing no evidences of interpapillary pegs; it was separated from the corium by clefts, here and there, containing epithelial debris. In the basal cell layer, pigment was wanting. The corium presented an absence of papillæ, corresponding to the rete pegs, and portions of the papillary and subpapillary regions depicted sclerotic changes. The connective tissue bundles could barely be distinguished: they were disposed in parallel strands and appeared as a homogeneous mass, staining poorly, and poor in cellular elements. The blood vessels had almost entirely disappeared, but dilated lymph channels were still present. At the lower border, the sclerotic connective tissue was pretty well defined by a zone



of lymphatic infiltrating cells, varying in thickness. This infiltrating zone was somewhat bow-shaped, its concavity upwards, the two extremities of the arch coming into contact with the epidermis above. Among the lymphatic cells there were numbers of young connective tissue elements, rich in protoplasm, and containing large, vesicular, elongated nuclei. Elastic fibres were diminished, especially in the mid-portion of the lesion. The remaining elastic fibres had retained their staining properties, but were disposed irregularly. Beneath this zone there were no noteworthy alterations.

The author looks upon this case as an example of card-like sclerodermia. The absence of nerve disturbances in the patient and her family, the absence of itching and other sensations, the limitation of the eruption to the neck and clavicular regions,—an area also affected in lichen sclerosus, but much more common in sclerodermia circumscripta,—the absence of lichen planus papules, the non-involvement of the mucosæ, the wrinkling of the skin over the central parts of the plaques (mentioned by Dreuw, Riecke, Fischer, and Meirowsky as a feature of circumscribed sclerodermia and never found in lichen sclerosus), the absence of cross-hatching in the patches, and the presence of a violet-bluish zone around some of the lesions,—all of these items are in favor of sclerodermia circumscripta.

Through the courtesy of Dr. Goldenberg, we were recently given the opportunity to study an example of sclerodermia guttata, exhibiting certain features which we think are of sufficient interest to justify a full report.

#### CASE REPORT.

PATIENT. MRS. Y. W., 48 years old, a native of Austria, was married at the age of 23 years. She entered Dr. Goldenberg's service at the Mt. Sinai Hospital Dispensary, for the treatment of a swelling over the left sterno-clavicular joint, which proved to be a periosteal gumma. Her husband died about five months ago, of "heart disease and kidney stones." The patient was pregnant five times. The first two pregnancies resulted in the birth of healthy infants, one of which died at the age of eight years, of scarlet fever, the other at the age of three years, of diphtheria. She had had three subsequent miscarriages, but could give no information as to the condition of the fœtuses. Recently she has suffered from mild headaches, but, aside from the swelling over the clavicle, she presents no evidences of active syphilis. The Wassermann reaction is four plus. The von Pirquet test is negative. Urine and blood-count are normal.

The family history is negative.

PHYSICAL EXAMINATION. The patient is a well nourished white woman, weighing 205 pounds. The scalp and hair, as well as nails, are normal. The pupils are irregular, contracted, the left being larger than the right, reacting to light and accommodation rather sluggishly. Ptosis, nystagmus or strabismus are absent. The thyroid gland, ears, nose and throat are normal. The teeth are in poor condition, the gums showing evidences of pyorrhœa. The tongue is moderately coated and projected mesially with slight tremor. The chest is well developed, expansion good, respiration regular and equal. The heart is

normal, the pulses equal, regular, with fairly good force and tension; there is no thickening of the arterial walls.

Over the left sterno-clavicular articulation there is a slightly bulging mass, somewhat tender on pressure. (This is a periosteal gumma, rapidly resolving under antisyphilitic medication.) The abdomen is prominent and tense. The spleen is not palpable. The liver can be felt on deep inspiration. On palpating the lower abdomen, a mass is felt, filling the pelvic space. Vaginal examination reveals a large, hard, fibroid uterus, extending to the umbilicus. The kidneys are not palpable. The external genitals are normal. The patellar reflexes are rather active, the right more pronounced than the left.

At the age of seven years, the patient sustained a hot water scald of the middle of the chest, between and partly on the breasts. The scalded area now presents a smooth, white, soft, depigmented and somewhat depressed scar, extending upward as far as the middle of the sternum and downward to the ensiform cartilage. The boundaries of this scar are well defined. There is no sign of keloidal changes within the scar tissue.

Five years ago, the patient first noticed the appearance of a few pinhead-sized, grayish spots, in the skin over the upper part of the sternum. She paid no attention to them, subjective sensations being absent in them. These spots gradually increased in number, extending upwards towards the neck, and involving the skin over the clavicles.

**SKIN.** Occupying a roughly triangular area directly over the sternum and invading the skin of the anterior portion of the neck, between the clavicles, as well as that overlying the inner thirds of the clavicles, are a large number of discrete and closely aggregated, millet to pinhead-sized, yellowish-white and pearly-gray, smooth, glistening, sharply defined, round and oval papules, distinctly raised above the level of the surrounding normal integument (Fig. 1). The base of the triangle lies almost exactly over the mid-portion of the sternum, while its apex lies over the thyroid gland. Over this area the papules are irregularly distributed. In some spots they are grouped, the groups consisting of five or six, up to twenty or thirty elementary lesions, some of the latter being contiguous without being confluent, while others are isolated and surrounded by normal skin. Over the inner thirds of the clavicles, the papules are strung out in a linear arrangement, corresponding to the position of the underlying bones. At the lower border of the affected region there is an area about the size of a silver half-dollar, presenting a patch in which the individual papules have coalesced, so that their original outlines may be discerned only upon close scrutiny. The surface of this patch is smooth to the touch, yellowish-white in color and glistening, the skin appearing atrophic. Neither the grouped papules nor the isolated lesions present signs of a pigmented zone or a peripheral halo, nor are there any dilated vessels to be seen in their vicinity. There is no evidence of dilated follicular orifices, horny plugs or lanugo hairs, even when examined with a lens. On palpation the papules impart a distinct sensation of resistance. There is a total absence of scaling, crusting, exudation and inflammation. The papules cannot be scooped out with the finger nail. Viewed with the light striking the skin at an angle, the appearance of the papules is strikingly like that of lichen planus papules.

Three spots from which pieces of skin were removed for microscopic examination, now present small, hypertrophic, keloidal scars, traversed by dilated blood vessels.

No other portion of the integument is involved in the process. The buccal mucosæ are free of lesions.

**HISTOPATHOLOGICAL EXAMINATION.** The three pieces of skin which

were removed for microscopic examination, represented, as nearly as could be judged, early and late lesions. Each section comprised a piece of the integument large enough to include from three to ten or more papules on its surface. Serial sections, stained in the usual manner, were studied from each of these pieces of tissue.

**EARLY LESION.** The horny layer shows no changes. The stratum lucidum is absent, the granular layer being composed of a single row of cells. The rete presents no noteworthy changes. The basal cell layer in many places presents a very indistinct outline, its component elements being separated and broken up. In these areas, the line separating the palisade cells from the underlying tissue is hazy and ill-defined. The epidermis presents no evidence of œdema. The rete pegs are irregular in shape and vary in size; some are long and narrow, others broad and flat, while still others form an anastomosing reticulum. Between the individual papular elements, the epidermis dips down into the derma; in these places the rete pegs are altogether absent.

In the corium there is a uniform œdema, resulting in marked swelling of the collagenous tissue. Its bundles no longer interlace in the usual oblique fashion, but are disposed horizontally, parallel to the epidermis. Fibroblasts are fairly abundant. The lymph spaces and vessels of the papillary and reticular layers are markedly dilated. Their endothelium is prominent and their lumina much distended and filled with blood cells or coagulated serum. Sheathing the vessels is a moderate infiltration of lymphocytes. In a few places, blood cells have escaped from the vessels. In the vicinity of some of the vessels there are a few branching cells, containing pigment, presumably chromatophores, which have picked up the pigment. The glands and follicles are unchanged, but around some of the latter there is a moderate collection of fibroblasts.

**LATER LESION.** In these sections two different phases of the process may be observed. The mid-portion and one side present a transitional stage, while the other side shows the end stage.

**TRANSITIONAL STAGE.** In this, the main epidermic change is seen in the lower most layer of the rete. The most striking feature here is the breaking up of the palisade layer, probably the result of degeneration of the papillary bodies. In the latter, there is a notable reduction in the number of capillaries and in the cellular elements, the tissue appearing as a homogeneous red-staining mass. In a few papillæ it appears granular, with loss of staining affinity. In the upper portion of the reticular layer, the collagen has, in places, undergone a marked alteration; the bundles of collagen have lost their outlines, they are fragmented, giving to the whole a reticulated or mesh-work appearance. In the deeper portions of the derma, the bundles of collagen are well preserved, are coarse, and contain but few cells, indicating the sclerotic process which pervades this region.

The blood vessels in the corium are few in number, and where present show marked constrictions of their lumina, together with a slight perivascular infiltration. The appendages are normal.

**TERMINAL STAGE.** Here the epidermis is reduced to a narrow strip of three or four layers of atrophic and flattened cells. The rete pegs and papillæ have disappeared. The underlying tissue is represented simply by sclerotic bundles of collagen, poor in cellular elements. The fibrosis has compromised the vessels, resulting in their disappearance, or leaving only a few traces, such as a slight inflammatory infiltrate, to indicate their former existence. The sclerotic process in the corium is manifested, not alone in the papular elevations,



but also, and to the same extent, in the depressed portions connecting each papule with its neighbor.

The elastic tissue presents scarcely any changes. Quantitatively, it seems to be well preserved, but it is somewhat irregular in its arrangement and disposition, corresponding to the structural changes in the collagen. In the papillary bodies, the elastic tissue appears to be normal.

These changes in the minute structure of our sections may be interpreted as representing three stages of the pathological process: the pre-sclerotic stage, or stage of inflammatory œdema; the sclerotic stage, associated, in this instance, with degenerative changes in the derma; and, finally, the stage of atrophy.

While the clinical appearance of the affected skin gave the impression that the integument between the individual papules was in every way normal, we learn from these sections that the skin between the papules, as a matter of fact, takes part in the sclerotic process, practically to the same extent as do the papules themselves. Furthermore, it would appear from these sections, that while the surface of the papular lesions apparently lies above the level of the normal skin, it is in reality *level* with the normal skin, while the areas between the papules are actually *retracted* or depressed. Attention has been directed to the dipping down of the epidermis where it separates one minute papule from its neighbor, and where the rete pegs and papillary bodies have completely disappeared. In these depressed interpapillary portions of the section, the sclerotic process is fully as pronounced as it is in the papules themselves. This accounts for the slightly sunken, circular patch of atrophic skin, apparently formed by the confluence of numerous grouped papular elements, as described in the clinical picture.

Briefly stated, the patient exhibits over the sternum and clavicles, an eruption of five years' duration, appearing insidiously and without subjective sensations, and consisting of numerous groups of small, burnished, discrete and confluent, smooth papules, of a yellowish and pearly-gray color and of rather dense consistence. No signs of an inflammatory process exist. Each papule, taken by itself, may be readily recognized to be a tiny spot of sclerodermia. The eruption as a whole, however, so much simulates lichen planus in everything but its color, that the name of lichenoid sclerodermia guttata seems to be the most fitting designation for it. In its histological aspect, the various phases of evolution which we have described are characteristic of ordinary circumscribed sclerodermia, closely resembling the changes described by Unna in his card-like sclerodermia. The cause of the collagenous degeneration is problematic and has been observed in other cases, notably those of Johnston and Sherwell<sup>16</sup> Hazen,<sup>4</sup> Fischer,<sup>8</sup> and MacKee and Wise.<sup>17</sup> The presence



of syphilis in this patient is not regarded as having any bearing on the sclerodermatous lesions.

The occurrence of typical keloidal scarring, following the biopsies, is of some interest, taken in connection with the extensive burn of the chest wall which the patient suffered in early life, and which did not give rise to keloidal changes in the affected area.

#### DIFFERENTIAL DIAGNOSIS.

Try as we might, to escape the perplexing subject of differential diagnosis in relation to cases of this class, we cannot arbitrarily dismiss the matter with the bald statement that the affection in our patient represents an eruption of lichenoid scleroderma guttata. There is no evading the circumstance that the lesions greatly resemble those of lichen planus in their morphology and hence demand a consideration of differential diagnosis, at least from the clinical standpoint. It is evident that the eruption possesses clinical features simulating both lichen planus sclerosus and circumscribed scleroderma, as a perusal of Ormsby's<sup>3</sup> paper on the former, and Unna's<sup>10</sup> article on the latter dermatosis, will show. In describing lichen planus sclerosus, Ormsby states that, "The characteristic lesion is an irregular, often polygonal, flat-topped, white papule. The white color of the lesions is striking and has been compared with that of ivory and mother-of-pearl. At times a distinct yellowish tinge is noted. The papules, as a rule, are firm to the touch, neither elevated nor depressed, but slight elevation may be present. They bend with the skin and when grouped, may become wrinkled. As a rule, no areola is present, but at times a rosy or moderately pigmented zone surrounds the papule. They may be discrete or grouped and most cases present both types. When grouped to form plaques, the outline of the individual papules forming the plaques, can be determined. Each papule has on its shining, smooth surface from one to several black or dark, horny, comedo-like plugs, or minute, pitlike depressions, which show the former site of the horny plugs. These elements are situated at the pilo-sebacous or sweat-pore orifices and are most important from the viewpoint of diagnosis. The plaques vary in size up to several centimetres in diameter. They show on their surface the outlines of the primary papules, containing the horny plugs, or exhibit minute depressions; and the whole plaque shows the peculiar shining, white surface, characteristic of the primary lesions. A linear arrangement of the papules is at times noted, similar to that seen in ordinary lichen ruber planus. There is, as a rule, no clinical sign of inflammation. . . . The lesions, both papules and plaques, are persistent, but after a variable

time, either from treatment or spontaneously, they undergo resolution and leave a delicate, white, soft, smooth, atrophic area, of the size and shape of the original lesion, whether it be a discrete papule or a large plaque. The subjective sensations vary. Itching is the rule, but it is usually moderate in grade. A pulling or drawing sensation is described by some patients, while in others, no subjective sensations are present."

As to Unna's card-like sclerodermia, it consists, in its simplest form, of white, round or oval, pinhead to lentil sized, sharply circumscribed, barely elevated spots, which may be isolated or confluent; a description which serves equally well for sclerodermia guttata.

From these accounts we note that the points common to both diseases consist in the occurrence, in both, of whitish papules, firm to the touch, slightly elevated, discrete or grouped, sometimes forming plaques; in the latter event, the individual papules may be determined on close inspection. Here the resemblance ends. The affection in our patient being of at least five years' duration, we may safely assume that there is little likelihood of its ever acquiring the clinical features peculiar to lichen planus sclerosus. One spot, as stated, shows signs of superficial atrophy, but aside from that, none of the lesions presents any evidences of involution, follicular depressions, horny plugs, pigmented areolæ, cross-hatching of the surface, and so forth.

#### LICHEN SCLEROSUS AND CIRCUMSCRIBED SCLERODERMIA.

Petges<sup>22</sup> wrote an elaborate paper in which he submitted a series of parallel columns designed to show the contrasting differential points between lichen sclerosus and sclerodermia guttata. Bizzozero,<sup>9</sup> who made a careful analysis of this work, rather convincingly demonstrates the fact that nearly all the points considered as being characteristic of lichen sclerosus, may also play a part in the symptomatology of sclerodermia circumscripta. He takes up Petges' various items, *seriatim*, referring to the age of the patient, the presence or absence of pruritus, areas of predilection, morphology and density of the lesions, tendency toward confluence, peripheral halo and pigmented zone, punctiform depressions and horny plugs, wrinkling and cross-hatching of the surface, the co-existence of lichen planus papules on the skin and mucosæ, and the co-existence of sclerodermia in bands and plaques. Of these symptoms, the only one which he regards as truly characteristic is the cross-hatching and mosaic-like surface of lichen sclerosus,—a feature not present in sclerodermia guttata. Bizzozero concludes that, barring those cases which exhibit true lichen planus papules, the differential diagnosis must be based entirely upon the predominance of certain clinical and histological features, leading to a composite whole.

The border line between the two affections becomes less and less defined, as Bizzozero remarks, especially when we compare their respective elementary lesions. Hallopeau's<sup>18</sup> publications on lichen sclerosus contributed to the confusion. In 1898, Hallopeau<sup>19</sup> showed a case of lichen sclerosus, in which the elementary lesions were not, as in his previous cases, elevated and colored, but were flattened, colorless and glistening at the start. He believed that these elementary lesions were not the result of a regressive change of the ordinary papules of Wilson's lichen planus, but that they were primarily achromatic and sclerotic. He amplified the picture of lichen sclerosus by differentiating a secondary lichen sclerosus, derived from the papules of lichen planus, from a primary lichen sclerosus. Cases of primary lichen sclerosus have been reported by Darier,<sup>20</sup> Ormsby,<sup>3</sup> Fordyce,<sup>1</sup> C. A. Hoffmann<sup>7</sup> and others. These cases closely resemble those of circumscribed scleroderma, in that the patches often result from a confluence of small, flat or slightly elevated, white, sclerotic spots. The features which Hallopeau regarded as being characteristic of lichen sclerosus lost their significance, since they also formed a part of Unna's card-like scleroderma. Examples presenting the symptoms of both affections have been reported by Hallopeau himself, and by Darier,<sup>20</sup> Dubreuilh,<sup>21</sup> Petges,<sup>22</sup> Stowers<sup>23</sup> and others, and led Stowers to call his case, lichen morphœicus. Von Zumbusch's<sup>24</sup> case of so-called lichen albus and Csillag's<sup>25</sup> case of dermatitis lichenoides chronica are considered to be transitional types, linking lichen sclerosus with card-like scleroderma.

**HISTOPATHOLOGICAL COMPARISONS.** The chief microscopic changes in lichen sclerosus, as first described by Darier,<sup>20</sup> are as follows: Thickening of the horny layer, with prolongations into the follicles and sweat gland orifices; thinning of the Malpighian layer, with disappearance of interpapillary pegs and corresponding absence of papillæ; sclerosis of the papillary bodies and upper portion of the corium, where the connective tissue bundles are compact and poor in cellular elements, the capillaries showing dilatation here and compression there, the elastic fibres attenuated; an aggregation of grouped round cells, just beneath the sclerotic zone; a sparse collection of cells about the sweat glands and some of the blood vessels. These findings have been corroborated by subsequent writers; variations in the microscopic appearances are due to differences in the intensity of the process, in the age of the lesions, the regions from which biopsies were obtained, and so forth.

In card-like scleroderma, the microscopic appearances resemble each other in practically all of the cases which have come under examina-



tion, in the advanced stages of the affection. These changes consist of: Hypertrophy of the horny layer; thinning of the Malpighian layer; the presence of clefts and lacunæ, varying in shape and size, between epidermis and corium; sclerosis of the papillæ and upper portion of the cutis, the connective tissue bundles being disposed in parallel, horizontal strata, between which are seen only the faintest lines of separation; a paucity of cellular elements and elastic fibres in the corium; a grouped infiltration, consisting chiefly of lymphoid and spindle cells, bordering the sclerotic margin, below.

Evidently, the histological changes in both affections bear many points of resemblance. In lichen sclerosus the subpapillary infiltrate gradually invades the deeper portion of the corium, leaving in its place a zone of sclerotic tissue, which grows correspondingly in width. A similar process takes place in card-like sclerodermia. After the initial stage of inflammatory oedema, involving the papillary and subpapillary regions, there follows the stage of collagenous hypertrophy, which, in turn, is succeeded by the sclerosis. The infiltration gradually disappears from the area originally involved, becoming localized at the periphery of the lesion, while the indistinctly separated bundles of connective tissue are replaced by a compact mass of collagen.

Comparing these microscopic changes with those seen in our own case of lichenoid sclerodermia, we find that the end stages of these different varieties of guttate sclerodermia are almost identical, the chief difference being in the absence of a zone of peripheral inflammatory cells in our case. If we go still further, and compare the minute structure of our lesions with those of other examples of lichenoid sclerodermia, namely, the cases of von Zumbusch, Csillag, Fischer, and Vignolo-Lutati,<sup>26</sup> we find analogous pathological processes occurring in all. As already pointed out, variations in the microscopic pictures are attributable to differences in the various stages of evolution, in the examined specimens.

#### LICHEN SCLEROSUS AND WHITE-SPOT DISEASE.

As to so-called white-spot disease, while it is conceded that all cases reported as such are presumably examples of guttate sclerodermia, it is not, in our opinion, true, that all cases of sclerodermia guttata are instances of white-spot disease, in the clinical sense. As stated, white-spot disease deserves its individuality and its name by virtue of its dazzling white color, if for no other reason, and its non-relation to lichen sclerosus. We are under the impression that while the yellowish and pearly-gray efflorescences of ordinary sclerodermia guttata are



relatively common, those of true white-spot disease are rarely encountered. Such, at least, has been our experience.

The whole question of the inter-relationship between white-spot disease, circumscribed scleroderma and lichen sclerosus, has been made the subject of a comprehensive study, recently, by Bizzozero.<sup>9</sup> This author's paper is both analytic and synthetic and in its scope includes practically all the relevant case reports, up to our own<sup>17</sup> publication on white-spot disease, in 1914. In the opinion of Bizzozero, the appellation "white-spot disease," as applied by Johnston and Sherwell to their first case, was unfortunate, in that it contributed to the confusion now prevailing in the classification of these affections. It required a great deal of investigation to arrive at the conclusion that nearly all cases of this type are to be grouped either under the head of card-like scleroderma (cases of Montgomery and Ormsby,<sup>28</sup> Herxheimer,<sup>6</sup> Juliusberg,<sup>27</sup> Riecke,<sup>5</sup> Petges,<sup>22</sup> Dreuw,<sup>30</sup> Meirowsky,<sup>29</sup> MacKee and Wise<sup>17</sup>), or under the head of both card-like scleroderma and lichen sclerosus (cases of Hazen,<sup>4</sup> Fischer,<sup>8</sup> Vignolo-Lutati<sup>26</sup>). Bizzozero looks upon Hazen's case as one of card-like scleroderma, and mentions Hazen's efforts to differentiate it from morphea guttata and lichen sclerosus, on the strength of his histological findings; these showed a disappearance of both collagen and elastin and an absence of sclerosis. Lichen sclerosus can be excluded on the following grounds: absence of subjective symptoms, of lichen planus papules, of mucous membrane lesions, of punctiform depressions, and of confluence of the lesions, forming plaques with cross-hatched surfaces. If it be assumed that the collagenous oedema in Hazen's case was so intense as to cause a wide-spread separation of the connective tissue bundles and a consequent absence of sclerotic changes (at least at the time when the tissue was removed for microscopic study), the probability of its being an anomalous example of card-like scleroderma may be accepted (Bizzozero). Aside from this anomaly, it is noteworthy that the inflammatory process is similar to that seen in scleroderma guttata; the wall of infiltrating cells surrounding the degenerated area in the corium points to the inflammatory process beginning in the upper layers of the derma, and gradually working its way downward, to the deeper structures.

Juliusberg,<sup>27</sup> Dreuw, and Bizzozero hold that the name white-spot disease should be applied to Westberg's<sup>33</sup> case alone, on the ground that card-like scleroderma covers all the cases in which the question of classification comes under consideration. In the opinion of Dreuw, we should not be deterred from classifying many of the cases reported as white-spot disease under the head of circumscribed scleroderma, merely be-

cause of minor differences in the appearance of the lesions, as affected by their morphology, color, presence or absence of a violaceous ring, degree of density, etc., as long as they retain the chief characteristics of Unna's card-like sclerodermia.

Not all investigators agree with this viewpoint. Kretzmer,<sup>31</sup> for example, believes that there are not sufficient grounds for the assumption that card-like sclerodermia is a variety of sclerodermia circumscripta, as Unna<sup>10</sup> maintains. His contention is based upon the fact that the histological changes in card-like sclerodermia show considerable differences, when compared with those seen in other types of circumscribed sclerodermia, such as morphœa and keloid-like sclerodermia. Kretzmer is inclined to separate the card-like variety from the circumscribed variety, and to group the former together with the cases described as white-spot disease. Darier voiced a similar opinion, giving the following reasons: while it is true that in card-like sclerodermia we find a sclerosis of the papillary bodies and the upper portion of the corium, this sclerosis takes place in the midst of an œdematous tissue, the sclerotic zone is separated from the healthy portion by aggregations of small round cells, there is a diminution of elastic tissue and a marked hyperkeratosis is present—all factors foreign to sclerodermia proper. Meirowsky,<sup>29</sup> however, maintains that these divergent findings are not sufficiently constant to justify the separation of the two types, and that if the various histological changes are viewed in the light of a composite whole, the contentions of Kretzmer and Darier may be overcome.

Bizzozero<sup>9</sup> points out that the sclerosis of the connective tissue or hypertrophy of the collagen is common to all varieties under discussion. The sclerotic process in sclerodermia is the result of a chronic inflammation, manifested by an infiltration of young connective tissue cells and lymph cells, chiefly about the blood vessels and glands. Darier himself records a case of beginning generalized and patchy sclerodermia, in which he found a subcutaneous, chiefly perivascular inflammation, with new formation of connective tissue and absence of elastin. The only factor missing here, and present in card-like sclerodermia, is the inflammatory process beginning in the papillary bodies, gradually extending into the deeper layers of the corium, and leaving behind it a zone of collagenous hypertrophy. This stage, however, is followed by the stage of sclerosis, in which the connective tissue becomes subject to a homogeneous alteration (Darier); the papillary bodies flatten and disappear, the epidermis often atrophies and the horny layer becomes thickened. These changes correspond to those of card-like sclerodermia.

The resemblances presented by the two varieties are therefore mani-

fest in every particular, with the exception of the elastic tissue findings. The elastin may be increased or decreased; it is subject to variations which may depend upon the age of the lesion, or, as Unna believes, the elastic tissue may atrophy as a result of mechanical influences, finally leading to its disappearance.

Another evidence of the relationship which exists between the two varieties of the disease is shown by those cases in which both types obtained in the same patient. Such examples were reported by Montgomery and Ormsby, Petges, Herxheimer, and Meirowsky. These cases support the contention that card-like sclerodermia is merely a variety of sclerodermia proper.

#### LICHENOID SCLERODERMIA GUTTATA.

Under the caption of lichenoid sclerodermia guttata, two cases appearing in the literature deserve especial mention; one reported by Fischer, under the title, "A Case of Circumscribed Sclerodermia Resembling Lichen Sclerosus of Hallopeau," the other reported by Vignolo-Lutati.

FISCHER's patient was a twelve year old girl, afflicted with tuberculosis of the elbow joint and genital gonorrhœa. The cutaneous lesions had been present for one year and were situated on the abdomen, neck, back, hips and legs. They occurred in groups, some of which showed a confluence of the primary papular elements. Fischer describes three clinical stages; the first stage was represented by a group of four lesions, said to be eight days old, situated near the umbilicus, associated with mild pruritus, the lesions closely resembling those of lichen planus; these were slightly elevated and had a narrow, reddish border; the surface was smooth and glistening and there was slight delling, but scaling was absent. They differed from the papules of lichen planus in that their color was a bluish milk-white. In the second stage, the spots were several weeks old and larger than those described. They were depressed in the centre and surrounded by a brown border. Inflammatory signs were absent; the color was milk-white. Some of the papules presented follicular plugs and horny masses. A drop of serum would exude when a lesion was punctured with a needle. A tiny scale could be removed from some of the spots, leaving a white surface underneath. In the third stage, the lesions presented a wrinkled surface and the epithelium was studded with a few horny processes. The individual lesions were much larger than those of the earlier stages; they had depressed centres and bore a detachable scale. This stage exhibited the atrophic phase of the involuting papules. After persisting for a variable period, the spots became depressed in the centre, leaving a flattened, depressed, atrophic scar, with a cross-hatched appearance of the surface and a few follicular depressions.

HISTOLOGICALLY, the subpapillary portion of the corium presented an inflammatory process, perivascular and interstitial in type. The epithelial appendages were affected secondarily. The most notable features were the fibroblastic proliferation and the highly cedematous state of the connective tissue, with destruction of the elastica and disappearance of the pigment. This was followed by collagenous degeneration and vesicle formation; the elastic fibres in the papillary bodies remained intact for a longer period, and presented evi-



dences of mechanical pressure, exerted upon the papillæ. The color of the patches was presumably due, partly to the peculiar changes in the connective tissue, partly to the loss of pigment.

Fischer points out that this case bears a strong resemblance to the lichen albus of von Zumbusch clinically, but that histologically, the changes are analogous to those of Unna's card-like sclerodermia.

IN VIGNOLO-LUTATI'S CASE, a man of nervous temperament, there were present, on the upper portion of the back, a number of discrete papular lesions, varying in size from that of a lentil to a pea. These papules were polygonal, glistening, milk-white in color, and were surrounded by a reddish-blue or brown halo. Some of them exhibited punctiform depressions and comedo-like plugs. In addition to the discrete lesions, there were a few patches formed by the confluence of elementary papules; these were porcelain-white in color, had slightly elevated edges and the surface was parchment-like, studded with punctiform depressions. A few were surrounded by a bluish or brown ring. Some of the plaques presented signs of superficial atrophy.

HISTOLOGY. A piece of skin was removed, including a segment of normal tissue, a bluish zone, a slightly elevated, narrow edge, and a portion of the depressed central area of one of the lesions.

The epidermis was attenuated over the depressed centre of the lesion, somewhat thickened at its periphery. In the central, depressed portion, and at the edges of the lesion, the corneous layer was irregularly thickened, homogeneous in appearance, and without a trace of nuclei, becoming normal as it approached the healthy integument. In the depressed portion, the stratum granulosum was developed irregularly, the Malpighian layer was diminished, rete pegs were absent; the basal layer consisted of somewhat flattened cells, in which pigment was very meagre, or entirely absent. In the elevated portion, however, the granular layer was well developed, the Malpighian network being acanthotic, with still well formed pegs, which slanted toward the peripheral, normal zone. There were traces of œdema in the cells of the deeper layers. Mitoses were absent.

Corresponding to the changes in the epidermis, the papillary bodies were flattened in the depressed portion of the lesion, while they slanted over toward the normal peripheral zone, in the raised edge; in the latter region a few lacunæ were seen, lying between epidermis and corium. The papillary portion of the corium was poor in blood vessels, the few remaining vessels being narrowed and apparently drawn out. Here and there, a few spindle cells were seen in the upper portion of the derma, isolated and grouped, and lying among the dense, thickened, compact, homogeneous, but well-stained bundles of connective tissue. The elastic tissue was absent, with the exception of a few isolated fibrillæ, lying between the parallel strands of compact connective tissue bundles. Toward the raised edge, and partly also in the normal area, the papillary and subpapillary vessels of the derma were dilated, some of them filled with blood cells. Here and there, in this zone, there were infiltrates, consisting of mononucleated cells, with large, well-stained nuclei. The infiltrates were most pronounced in the papillary bodies, more meagre in the subpapillary portion, and the cells were disposed in groups and rows, around the vessels, follicles and sebaceous glands. Where the infiltrates were more marked, the connective tissue bundles were spread asunder, while the elastic tissue was reduced in amount. The deeper layers of the derma appeared to be normal, both in the depressed central area, as well as in the peripheral portion of the lesion.

While these two examples present several clinical features not present in our case, they nevertheless exhibit lesions closely resembling lichen



planus papules, a circumstance which permits placing them, together with our case, under the head of lichenoid sclerodermia guttata. In their minute structure, each of these three cases depicts a pathological process common to all forms of circumscribed sclerodermia, with certain variations which may be attributed to differences in the age of the lesions, the region of the body from which they were removed, and so forth. They are differentiated from Unna's type, chiefly on account of differences in the morphology of their elementary lesions, which, instead of being small, white, non-elevated spots as in card-like sclerodermia, they are rounded or polygonal, hard, white, glistening papules, greatly resembling those of lichen planus.

Beside the cases of Vignolo-Lutati and Fischer, the literature contains two other examples of the lichenoid type of the disease, namely those of von Zumbusch and Csillag. In these, however, the resemblance of the lesions to lichen planus papules is much less pronounced than in those above described.

#### SUMMARY.

The various types of eruption considered in the foregoing differential study may be grouped under the following heads: 1, primary lichen sclerosus, possessing flat, white, glistening spots, some of them slightly elevated, and resembling circumscribed sclerodermia; 2, secondary lichen sclerosus, possessing the elementary lesions of lichen planus of the Wilson type; 3, the card-like sclerodermia of Unna, or *morphœa guttata*; 4, the lichenoid form of sclerodermia guttata. The case forming the subject of this report comes under the last mentioned group.

In its clinical features, the lesions in our patient's eruption differ from those of the other groups, chiefly in the simplicity and uniformity of its papular elements, and in the absence of secondary changes manifested in them. The question of the presence or absence of a violaceous border, a pigmented halo, punctiform depressions or comedo-like plugs, cross-hatching of the surface of the lesions, and so forth, does not obtrude itself here, as it so frequently does in the consideration of most cases included in this group of dermatoses. We are dealing with a frank sclerodermia, occurring in the form of numerous discrete and grouped papules, hard to the touch, glistening, pearly-gray in color, and showing clinical resemblances to lichen planus. The sclerotic process, as seen under the microscope, involves not only the papules themselves, but also the clinically normal skin lying between the papules, where the latter are grouped. This interpapillary portion of the skin is apparently retracted or depressed below the level of the normal integument, thus leaving the surface of the papules level with the niveau. The

initial manifestation of each individual lesion seems to be a primary achromatic and sclerotic papule.

The name scleroderma guttata falls short of describing this dermatosis, failing, as it does, to suggest its resemblance to lichen planus, and giving no hint of its aberrant clinical features, when compared to ordinary circumscribed scleroderma. The most appropriate designation for it, therefore, seems to be one which has already been given to related types of eruption, namely, lichenoid circumscribed scleroderma.

In conclusion, we extend our thanks to Dr. Goldenberg for his permission to study and report our case; and to Dr. MacKee for his kindness in furnishing the accompanying illustrations and for his valuable suggestions bearing on our case report.

#### REFERENCES.

- <sup>1</sup> FORDYCE. The Lichen Group of Skin Diseases: A Histological Study. *Jour. Cutan. Dis.*, Feb., 1910, xxviii, No. 2, p. 57.
- <sup>2</sup> ORMSBY. See Montgomery.
- <sup>3</sup> ORMSBY. Lichen Planus Sclerosus et Atrophicus (Hallopeau). A Report of Six Cases (Five New) With a Review of the Literature. *Jour. Amer. Med. Assn.*, Sept. 10, 1910, lv, No. 11, p. 901.
- <sup>4</sup> HAZEN. An Anomalous Case of White Spot Disease. *Jour. Amer. Med. Assn.*, Aug. 9, 1913, lxi, p. 393.
- <sup>5</sup> RIECKE. Zur Kenntnis der Weissfleckenkrankheit (White Spot Disease). *Arch. f. Dermat. u. Syph.*, 1910, lxxxix, p. 181.
- <sup>6</sup> HERXHEIMER. Vorstellung eines Falles von "White Spot Disease" und Demonstration von Moulagen zweier weiterer Fälle und eines Falles von multipler Morphœa. *Verhandl. d. Deutsch. Dermat. Gesell.*, X Kongr., 1908, Frankfurt, p. 397.
- <sup>7</sup> HOFFMANN, C. A. Ueber Lichen Sclerosus der weiblichen Genitalien. *Dermat. Ztschr.*, 1914, xxi, No. 6, p. 473.
- <sup>8</sup> FISCHER. Ueber eine dem Lichen Sclerosus (Hallopeau) angenäherte Form der zirkumscribten Sklerodermie. *Arch. f. Dermat. u. Syph.*, 1911, cx, Nos. 1 and 2, p. 159.
- <sup>9</sup> BIZZOZERO. Ueber die Scleroderma circumscripta und ihre Beziehungen zum Lichen sclerosus. *Dermat. Ztschr.*, Sept., 1915, xii, No. 9, p. 517.
- <sup>10</sup> UNNA. Card-like Scleroderma. *Histopathology of the Diseases of the Skin*, Walker's Translation, p. 1103.
- <sup>11</sup> PERNET. Case of Morphœic Scleroderma. *Proc. Roy. Soc. Med.*, Lond., 1915, viii, p. 236.
- <sup>12</sup> SIBLEY. Case of Morphœic Scleroderma. *Ibid.*, p. 98.
- <sup>13</sup> BUNCH. Morphœa Guttata. *Brit. Jour. Dermat.*, 1915, xxvii, p. 61.
- <sup>14</sup> JONES AND TURNBULL. Scleroderma Guttata. *Brit. Jour. Dermat.*, Dec., 1915, xxvii, No. 12, p. 450.
- <sup>15</sup> BREDÀ. Della Scleroderma Guttata. *Giorn. ital. d. mal. ven. e. d. pel*, 1914, lv, p. 283.
- <sup>16</sup> JOHNSTON AND SHERWELL. White Spot Disease. *Jour. Cutan. Dis.*, July, 1903, xxi, No. 7, p. 302.
- <sup>17</sup> MACKEE AND WISE. White Spot Disease. *Jour. Cutan. Dis.*, Sept., 1914, xxxii, No. 9, p. 629.
- <sup>18</sup> HALLOPEAU. Lichen planus sclerosus. *Ann. d. dermat. e. d. syph.*, 2 serie, 1889, x, p. 447.



FIG. 1.  
Showing discrete and coalesced papules on chest.

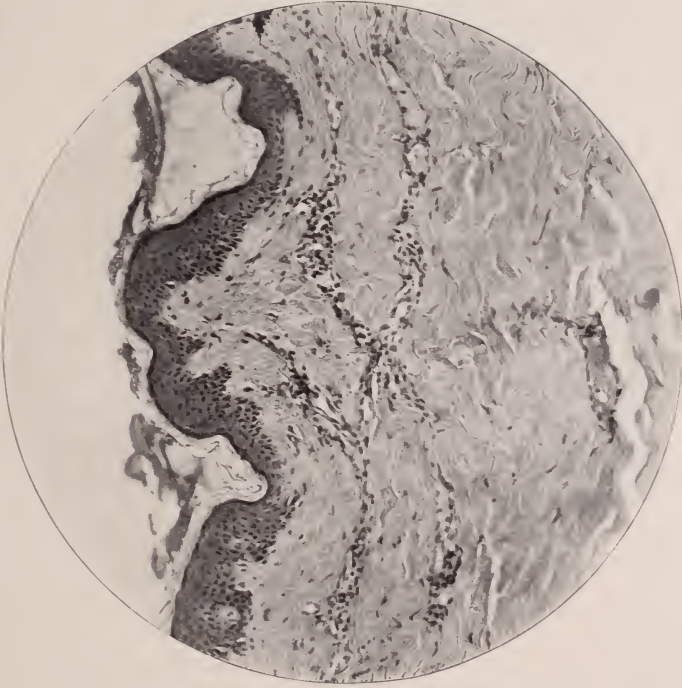


FIG. 2.  
Zeiss, obj. 8 mm., co. oc. 4. Early stage—congestion and edema  
of derma. Central elevation is a papule.





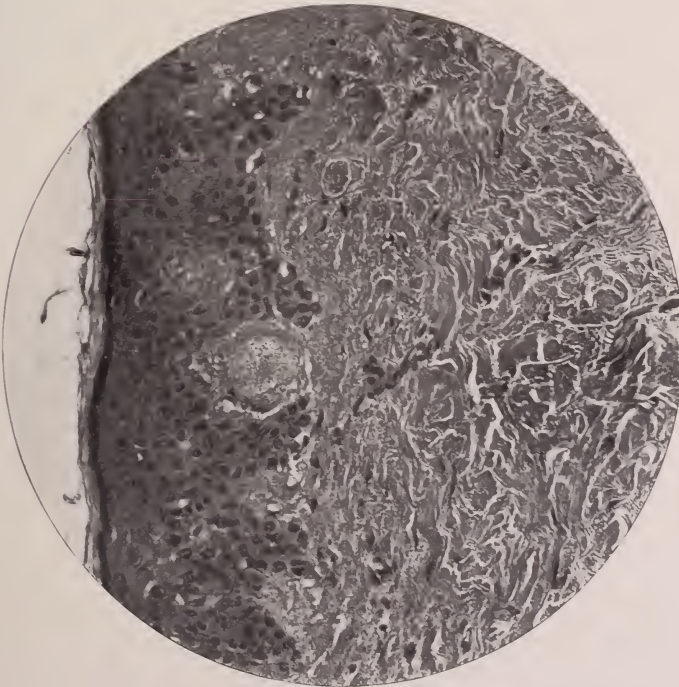


FIG. 3.  
Zeiss, obj. 4 mm., co. oc. 4. Intermediary stage—showing  
degeneration in papilla.

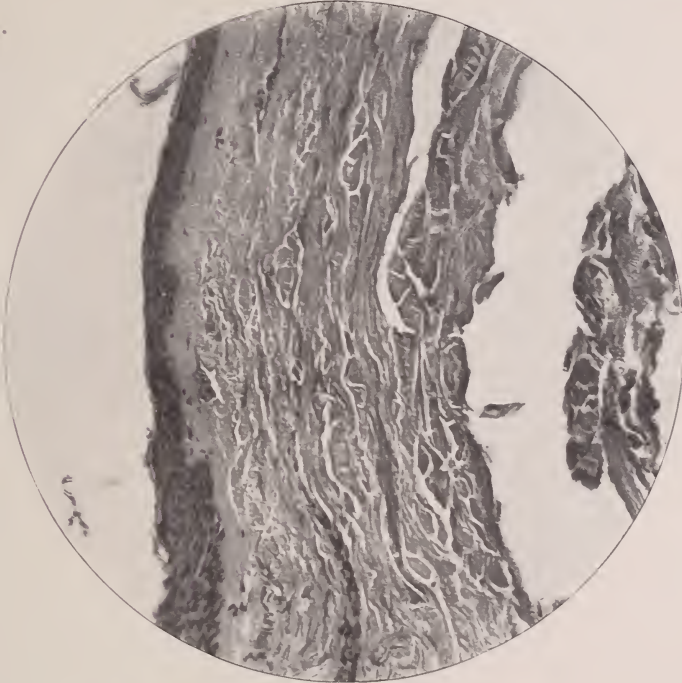


FIG. 4.  
Zeiss, obj. 8 mm., co. oc. 4. Late stage—showing atrophy  
and sclerosis.



<sup>19</sup> HALLOPEAU. Sur un nouveau cas de Lichen scléreux de Wilson. *Ann. d. dermat. e. d. syph.*, 1898, ix, p. 358.

<sup>20</sup> DARIER. Lichen plan scléreux. *Ann. d. dermat. e. d. syph.*, 1892, p. 833.

<sup>21</sup> DUBREUILH. Lichen plan atrophique. *Ann. d. dermat. e. d. syph.*, 1907, p. 715.

<sup>22</sup> PETCES. La morphée en gouttes et le "white spot disease." *Ann. d. dermat. e. d. syph.*, 1913, iv, p. 415.

<sup>23</sup> STOWERS. Lichen planus atrophicus. III Internat. Congr. Dermat., Lond., 1896.

<sup>24</sup> ZUMBUSCH. Ueber Lichen albus, eine bisher unbeschriebene Erkrankung. *Arch. f. Dermat. u. Syph.*, 1906, lxxxii, p. 339.

<sup>25</sup> CSILLAG. Dermatitis lichenoides chronica atrophicans (Lichen albus). *Ikon. Dermat.*, 1909, Fasc. iv, Tab. xxx, p. 147.

<sup>26</sup> VIGNOLO-LUTATI. Ueber den sogenannten Lichen albus von Zumbusch. *Dermat. Wehnschr.*, June 8, 1912, liv, No. 23.

*Idem.* Beitrag zum Studium der Sclerodermia circumscripta. *Dermat. Ztschr.*, 1912, xix, p. 592.

<sup>27</sup> JULIUSBERG. Ueber die "White Spot." *Dermat. Ztschr.*, Dec., 1908, p. 747.

<sup>28</sup> MONTGOMERY AND ORMSBY. "White Spot Disease" and Lichen Planus Sclerosus and Atrophicus. A Clinical and Histological Study of Three Cases, with a Review of the Literature. *Jour. Cutan. Dis.*, Jan., 1907, xxv, p. 1.

<sup>29</sup> MEIROWSKY. Sclerodermia diffusa et circumscripta. *Ikon. Dermat.*, 1914, Fasc. 7, p. 291.

<sup>30</sup> DREUW. White Spot Disease oder Sclerodermia Circumscripta? *Dermat. Studien*, 1910, xxi, p. 214.

<sup>31</sup> KRETZMER. Zwei Fälle von multipler Kleinfleckiger Sclerodermia Circumscripta (White Spot Disease.). *Arch. f. Dermat. u. Syph.*, 1913, cxviii, p. 148.

<sup>32</sup> DARIER. Histologie pathologique des maladies de la peau d'après les travaux de Unna. Analyse critique par Darier. *Ann. d. dermat. e. d. syph.*, 1896, p. 111.

<sup>33</sup> WESTBERG. Ein Fall von mit weissen Flecken eingehender, bisher nicht bekannter Dermatoze. *Monatsh. f. prakt. Dermat.*, 1901, xxxiii, p. 355.

#### DISCUSSION.

DR. PUSEY said that since his attention had been called to nævus anæmicus he had been struck by the fact that there was another condition which should be included with white-spot disease. He had in the last year and a half seen several cases in which white spots on the upper part of the front of the chest occurred, which presented the exact appearance of some of the cases of white-spot disease which he had seen. He was convinced from their history and appearance that the white spots in these cases were small nævi anæmici. He did not mean that they were not cases of scleroderma and lichen planus which produced so-called white-spot disease, but he did wish to call attention to the fact that small anæmic nævi not infrequently produced the same picture of white spots that was seen in other cases of so-called white-spot disease.

DR. HARTZELL thought the term "white spot disease" should be abandoned; since it was generally agreed that the affection was scleroderma, why not call it so? As to nævus anæmicus, he had seen an example that morning, and while the spots were white, they were not at all like the so-called "white spot disease."

DR. WHITE said he would like to ask Dr. Pusey if he had made any microscopic examination of his cases. The speaker said he had seen cases like this, which he found to be benign cystic epithelioma.

DR. RAVOGLI said he had occasion to see a case like that described by Dr. Pusey. It was in a young woman who had undergone a very severe case of syphilis, who showed agminated, brilliant, whitish spots on the lower anterior

region of the neck, going down to the chest. It seemed nothing else than lesions of the connective tissues, which had been infiltrated and had undergone a kind of atrophic condition, forming as a consequence these peculiar whitish spots. The Wassermann reaction had been negative for a long time and the eruption could not be considered as an evidence of syphilis, but rather as a vasomotor affection. The speaker thought that Dr. Hartzell was perfectly right that this term, white-spot disease, had no meaning whatever. They must either refer the white spot to morphœa, to scleroderma or to the lichen planus sclerosus, and in this way the term white-spot disease would be entirely wiped out of the nomenclature. It either would be morphœa or circumscribed scleroderma, the result of injuries to the tissues in consequence of infiltration, lichen planus, or even the result of psoriasis. In one of his cases atrophic, whitish spots on the lumbar region had been the result of persistent patches of psoriasis.

DR. ORMSBY said he was interested to hear the paper of Drs. Wise and Rosen, particularly for the reason that it confirmed the findings Dr. Montgomery and he had come to, some years ago. The speaker further said that all of these cases fell into two groups, and that these groups were well defined, both clinically and histologically. He said it had been the intention of Dr. Montgomery and himself to emphasize the fact in their original paper that there was no such thing as white-spot disease; but, unfortunately, the title of the paper as presented rather emphasized the term "white spot" than the reverse. Their conclusions at that time were that all of these cases were either localized scleroderma or lichen planus atrophicus et sclerosus of Hallopeau.

The speaker further said that there was no reason why the term "white spot" should be continued, as there was really no such entity as white-spot disease.

DR. MACKEE said that the case was surely one of scleroderma. Histologically, it was interesting to note that the alterations extended through the entire section and were not limited to the papule. The papule, in fact, presented a more normal histological appearance than did the interpapular tissue. The papule appeared to be due, as Dr. Wise had said, to a degeneration and sclerosis, which progressed more rapidly in some places than in others. Later in the evolution the papules disappeared, leaving a diffuse sclerosis. This could be observed both clinically and histologically.

The speaker was opposed to the retention of the term white-spot disease, because it was too confusing. White lesions were observed in lichen planus sclerosus, in scleroderma, in *naevus anæmicus* and several other conditions. The term was originally employed by Westberg, Johnston and Sherwell, Hazen, and Ormsby to designate white lesions which were difficult to place nosologically, although in some of these cases the evidence was in favor of scleroderma. Dr. Wise and the speaker, two or three years ago, reported a case of white-spot disease in which histological material was obtained from two lesions which were clinically identical. The histological pictures, however, were totally different. In one lesion there was considerable infiltration and degeneration, as found in the cases of Johnston and Sherwell, Hazen, etc. If the research had ended here, the speaker would have been in favor of an entity, as were the earlier observers. The material from the second lesion, however, showed a scleroderma. It was considered, as a result of the finding, that if the earlier cases had been studied at different times, a diagnosis of scleroderma would have been made. In the article by MacKee and Wise, the term white-spot disease was retained with the suggestion, however, that it be restricted to white lesions that belonged to the scleroderma group.

White lesions occurring in lichen planus were usually readily differentiated from those belonging to the scleroderma group. In the former there were likely to be some typical lichen planus papules and, histologically, there was the



typical microscopical picture of lichen planus. On the other hand, lichen planus sclerosus might pass through its stages of evolution and involution without suggesting, clinically, a lichen planus, and the histological findings would depend upon the time of development of the lesion. Fordyce, for instance, removed a white lesion from a patient who also had typical lesions of lichen planus. The specimen showed what appeared to be the sharply limited infiltration of lichen planus which, in this instance, was pushed down into or had invaded the deeper layers of the derma as a result of a sclerosis of the papillary body and upper part of the reticular layer. The epidermis was atrophic. One, on studying the specimens from this case, could readily imagine that at an earlier stage one would have encountered the epidermic and dermic alterations of lichen planus. One could also imagine that at a still later stage the infiltration would disappear, the sclerosis would extend to the lowermost limit of the reticular layer, and the histological picture would be that of scleroderma. One was, therefore, compelled to agree with our German colleagues, who declared that at times it was impossible to differentiate between lichen planus sclerosus and scleroderma.

It would seem that practically all, if not all, cases of white-spot disease could be placed in one of two groups—namely lichen planus and scleroderma. Occasionally and until we had better means of investigation, there would probably be a borderline case that would defy differentiation and would tend to correlate the two groups.

DR. WISE said that practically everything of interest had already been said on the subject, still he adhered to the somewhat unimportant opinion that there was no reason to entirely eliminate so descriptive a term as white-spot disease. He had seen examples of circumscribed scleroderma in which the whiteness of the lesions was its most striking feature, the color differing greatly from the ordinary yellow of scleroderma. In reference to *nævus anæmicus*, he thought that there was little likelihood of confounding the two diseases. In that form of *nævus*, the affected area was ischæmic, but otherwise normal, while in scleroderma circumscripta, infiltration was an obvious clinical feature.

## THE TREATMENT OF ACNE.\*

BY R. A. McDONNELL, M.D., NEW HAVEN.

THE search for specifics in medicine is fascinating, but infrequently crowned by success. When a specific really is discovered, there is no doubt about it. Everybody uses it, in preference to any other treatment. Several years ago, vaccination with the acne bacillus, or its products, was offered to the profession as a specific against acne. Time and experience, as well as reason, have demonstrated that not only is the present technique not specific, but that no future improvements in dosage or method of preparation can possibly make vaccination specific.

Where all the symptoms accompanying a given disease may reasonably be attributed to a certain organism, there is good ground for hope that vaccination with that organism, or its products, may so raise the resistance to that disease as to constitute a truly specific action. These premises are true of typhoid fever, for example, and a vaccine has been worked out which undoubtedly furnishes very great protection against that disease. Yet Dr. Strong, who headed the expedition which was sent to Serbia to stamp out the plague, reports that among the Servian soldiers and their Austrian and Bulgarian prisoners, all of whom had been recently vaccinated against typhoid, that disease was frequently encountered.

Personally, I think that vaccination has run riot, and that it is time to face the facts. Does furunculosis always yield to autogenous vaccines? Surely not in my hands. The boils keep coming, until I open every one, and keep the neighboring skin, and the patient's fingers, clean.

There is a vaccine for ringworm of the scalp. I wish it well, because, with my present resources, I find it quite difficult to cure the disease. But I am not, to say the least, sanguine of its success. My previous experiences with gonorrhœal vaccine, and with tuberculin, have made me skeptical. We shall soon have a vaccine for impetigo, if we don't look out.

In acne, we have a disease of adolescence and middle life, characterized by an eruption, chiefly on the face and back, of comedones, small, hard papules, pustules, and, in some cases, abscesses of considerable size. Accompanying the eruption, there will be found, if careful enquiry is made, one or more of the following symptoms, in over eighty per cent. of the cases: constipation, abdominal gas, headaches, palpitation, dizzi-

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ness. These are classical symptoms of intestinal fermentation, and I have placed them in the order of their frequency in my practice. Some patients declare themselves absolutely free from these symptoms, and assert that, save for the eruption, they are absolutely well. Such are considered poor observers, and treated like the rest.

In acne, as could reasonably be expected, the lesions contain a variety of germs. At the beginning, the sebaceous glands are wide open and the soil is favorable. The acne bacillus, staphylococcus, streptococcus and occasional other organisms have been demonstrated. These, it seems to me, are accidental, and not an essential part of the disease.

The real cause of acne, I am convinced, is intestinal fermentation, though counterfeit acne may be produced by the administration of certain drugs which are partially eliminated by the sebaceous glands, like iodides and bromides, and by the external use of others which seal up the sebaceous glands, like tar.

Intestinal fermentation is the resultant of two factors: eating fermentable food, and inability to prevent such food from fermenting.

Regulation of the diet is, to my way of thinking, the most important step in the management of acne. Fermentable foods may, roughly, be said to include all starches and sweets. In practice, however, it is neither possible nor necessary to withdraw all starches from the diet. The following should never be eaten: breakfast cereals, potatoes, fresh bread, macaroni, apples, bananas and nuts. Everything sweet should be prohibited, including candy, preserves, cake, pie, ice cream, soda water.

At the first visit, when the patient's enthusiasm and willingness to deny himself are at the highest pitch, I limit his diet for two weeks to milk toast, soft boiled eggs, dry toast and soup. After that, the diet list may include soups, fish, meats, vegetables (except potatoes and beans), fruits (except bananas and apples), eggs, toast, salads, tea, coffee and milk.

The best excitant to the flow of pancreatic juice is gastric juice, and the best excitant of gastric juice is saliva. If digestion in the small intestine is to be improved, it is important to begin with the mouth. It is perfectly surprising to learn from orthodontists how many children have teeth incapable of meeting. These youngsters bolt their food, imperfectly, or not at all mixed with saliva, and the result is a foreign body in the stomach, with nothing but friction to excite the flow of gastric juice. The stomach, being a good strong muscle, hustles the foreign body into the intestine, without furnishing enough gastric juice to excite a sufficient flow of pancreatic juice. So it lies here and ferments.

At the beginning of treatment, then, it is highly desirable to have the

teeth overhauled by a competent man, and made capable of mastication. Next, the importance of chewing should be drilled into the patient.

Besides chewing the food thoroughly, which is the best way to produce a copious flow of saliva, other expedients may be used to the same end. Savory odors make the mouth water, and so do condiments and sauces.

There are some drugs which are capable, to a limited extent, of holding intestinal fermentation in check. To my mind, the best of these is ichthyol. A common prescription with me is, aloin, 0.10, ichthyol, 10.00, licorice powder, q. s., to be mixed and divided into thirty capsules, of which one is to be taken after each meal. Other drugs will readily suggest themselves.

A thing which has struck me very forcibly is the extreme care about eating which is necessary for the best results in acne while a student is at Yale, and the lack of consequences from indiscretions in eating when the same patient is on his vacation. Many of the young men go to camp in Maine or Canada, or to ranches, during the summer, and in such places they eat everything set before them, including flap-jacks, hot biscuit and soggy potatoes, with perfect impunity.

Manifestly, there is something about an active life in the open air which enables these boys to withstand the insults to their digestive apparatus. This leads to a consideration of what I believe to be next in importance in the treatment of acne, namely, sunlight, fresh air and exercise.

The highly interesting paper of Dr. Harvey P. Towle, on "Heliotherapy in Diseases of the Skin," is specific confirmation of a belief long held by medical men, as well as the laity. Not only is sunlight beneficial locally, in acne, but there appears undoubted virtue in it as an aid to digestion.

A recognized treatment of acne consists in peeling the epidermis by using sulphur, mercury, iodine, and similar drugs. This evacuates the sebaceous glands, wholesale. The same thing is accomplished, much better, in my opinion, by exposure to the direct rays of the sun. It is a good idea, before the exposure, to scrub the face with ethereal soap, so as to remove the protecting layer of oil from the skin. The time required to effect peeling varies with the season and the locality, from fifteen minutes to an hour or more.

After the skin has begun to peel, I have the patient wash it, every night, with alcohol or ethereal soap, and then apply calamine lotion, and a dusting powder over that. If there are deep-seated pustules, or abscesses, they are opened with a fine-pointed bistoury and their contents gently expressed.



A measure which has proved valuable in producing the desired drying up of excessive secretion of sebum is X-ray treatment. The dose administered must be well within the erythematous effect, and it should not be repeated inside of three weeks. I give a dose corresponding to two measures on the Hampson radiometer, which, with my machine, requires a distance from the target of the Coolidge tube of about seven inches, and an exposure of three minutes, using three and one-half milliamperes, and filtering the ray.

If anyone shall be so rash as to agree with the writer that the digestion is the main thing in acne, he will realize how menstruation, masturbation, cigarettes, anæmia, endometritis, and many other things can influence the eruption. Without painstaking investigation into the condition of the general health, no one can reasonably hope to cure a bad case of acne.

Where suppuration is marked, there is no doubt of the value of vaccination, as an adjunct to the rational treatment. Vaccination alone, indeed, may produce a temporary symptomatic cure; but the disease generally recurs unless the soil on which the pus-forming organisms grow is radically changed by controlling intestinal fermentation.

#### CONCLUSIONS.

There is no specific for acne. Vaccination is not specific, and cannot be made specific by any improvement in technique. Acne is due, primarily, to intestinal indigestion, the germs found in the lesions being accidental.

Two factors must be considered as causative: eating fermentable food, and inability to prevent such food from fermenting. Starches and sweets should be excluded from the diet. The teeth should be put in order. Anti-fermentative drugs do some good. Sunlight and fresh air help a great deal. Drying and peeling lotions help, locally. The X-ray works in much the same way.

Factors like menstruation, cigarette smoking and anæmia, through their influence upon digestion, may affect the course of the eruption.

Vaccination often controls the formation of pus in the lesions.

#### DISCUSSION.

DR. RAVOGLI said he wanted to congratulate the essayist for the important description of the treatment of acne, which affection occurred nearly every day in practice and when the patients improved it afforded a great deal of pleasure to them as well as to the physician. He had found that all practitioners relied probably too much on the use of vaccine. A great many cases of acne indurata had come under the speaker's attention, much more frequently than they did some years ago, when more attention had been given to the surgical treatment,

by opening the pustules and removing the pus and the degenerated substances of the sebaceous glands.

The speaker thought that the ideas of Dr. McDonnell were very good, concerning the condition of the stomach. He, too, had found that many of the patients were suffering with constipation and dyspepsia. He thought that probably constipation had more to do with it than the condition of the stomach. The constipation caused the sulphurated hydrogen to remain in the bowels, which gas, absorbed and carried into the circulation, would change, altering the condition of the hæmoglobin and weakening the system; this causing alteration in the sebaceous secretion of the skin, which plugged the excretory ducts and then the staphylococci did the rest, producing pustules. There was no doubt, the speaker said, that the vaccine treatment was good, but he thought that without it, using only the surgical treatment, opening the pustules, drawing out the purulent substances and sterilizing the active lesions, improving the digestion and the nutrition, eliminating the constipation, we could do very much good in the treatment of this disease.

DR. WALLHAUSER said that while he would agree that the internal causes of acne mentioned by Dr. McDonnell might act to influence certain cases, they should be considered as contributory. The main factor to be considered in the treatment was a local infection. During the past ten years he had gradually eliminated one remedy after another until the present time, when alcohol as a wash, applied with cotton and firm pressure four or five times a day, constituted the sole treatment for the majority of cases. The only addition employed was in the severe pustular types, in which the pustules were incised and expressed, at intervals of a few days. This plan, when carefully and persistently applied, had given rapid and satisfactory results.

DR. DAVIS said his idea had been that the condition was in part due to not thoroughly mixing the starchy foods in the mouth with saliva. He said that the animals, the horse, cow, mule, chewed starchy foods more sensibly than the human animal. Locally the speaker preferred Lava soap, which "curetted" the tops of the lesions, and then, ordinary lotions afterward. He thought that teaching people to chew properly, so that the starches were converted in the mouth into glucose, and swallowed as glucose and not as starch, would meet with the best results.

DR. WEISS said that he was grateful for the lucid and concise explanation of the reader and perfectly agreed that hygiene, diet, sunlight, etc., will contribute to the cure of the disease. The speaker said there was probably another aspect to acne than auto-intoxication and other shortcomings of the social and hygienic life. As they knew, he said, acne was a disease of puberty. Children and old people had no acne. At these ages the sebaceous glands were not performing their work to their highest pitch. Children's early life morbidity was prominently dermal. They then acquired the different exanthemata and infectious diseases like diphtheria, parotitis, whooping cough, etc. The predisposition to these ailments or the escape from them was not a mere accident or contingent on exposure only. The thyroid gland formed the first line defence against infectious diseases; its inadequacy, therefore, which was mostly inherited and in some cases acquired, will predispose them to infections.

In old age, retrogressive changes took place in every organ-system and naturally in the skin also. The pilo-sebaceous glands were actuated in a perverse manner, causing seborrhœic warts and other senile disturbances. It was well known that great changes took place in adolescence and puberty. At this age the thymus went out, as it were, and the gonads came in. With this effacement of one ductless gland, and the powerful active entrance of another, the sexual glands, the pilo-sebaceous system also underwent great changes, especially in the direction of over-secretion and vasomotor disturbances.

The speaker said in most of their cases of acne they found sub-thyroid conditions, such as cold feet and hands, erythema pernio, dry skin, brittle nails, changed character of the urine, fatigue, constipation, defective dental development,—all thyroid shortcomings. The speaker would emphasize the fact that in such cases of acne, where the sub-thyroid conditions were present, that thyroid substance would really perform a great service, and should be given if the patient showed such markings. In those cases it would serve a great purpose, in conjunction with the hygiene and surgery. As to the dosage, experience had shown that small doses, from  $\frac{1}{4}$  to  $\frac{1}{2}$  grain, twice daily, were more effectual than the customary larger ones. Even with these dosages close supervision should be exerted.

DR. GILCHRIST said that the cases which came to them privately were very troublesome, especially getting rid of acne in young girls. The speaker said, in regard to the ætiology, that the *Bacillus acnes* was causal, with the streptococcus as a secondary agent. He had found the streptococcus and even the *Streptococcus aureus*. With reference to the X-ray, he said that during its first few years everybody got an X-ray apparatus, turned on the machine and treated all cases with the X-ray. More harm had been done during the first few years, than good. Reports had been made by dermatologists then about the results obtained. This had gone down to the proper level. When vaccine therapy came in, it was taken up by physicians all over the country, running it to death, and their cases were over-treated with the *Bacillus acnes* in every instance. That, the speaker said, had now also gone down to its proper level. The speaker stated what one wanted to do was to use one's judgment. Vaccines sometimes were very beneficial. They should raise the resisting power of the patient, by attending to other things the matter with him. Probable toxæmia produced by the *Streptococcus albus* might have had something to do with the causing of constipation in the line of bacterial infection. These had to be corrected. In constipation there should be careful diet. The cases should be carefully gone into and the whole picture, every detail, outlined. Under the stereoscopic magnifying glass they should remove every comedone. Then they could more easily get rid of the nodular form by the vaccine of *Bacillus acnes*.

When cases relapsed, the speaker said he found that one pretty heavy dose of the *Bacillus acnes*, or two, was sufficient to get the patient to go along for six or twelve months more, and then he went back to the bigger dose again. In using it for the first time at the Johns Hopkins Hospital, he started with one hundred million and then two hundred million and had the patients rest for twenty-four hours. This was given up to twenty-five hundred million. Another dose was administered in a week or ten days, and then the vaccine stopped. The speaker said there had been more reactions from small doses than large doses.

DR. McDONNELL said when he offered this paper he thought he was going to be convicted of heresy. It had seemed to be the universal opinion that the only satisfactory procedure was the injection of vaccine, and the speaker was very glad to find that only one man of the six or seven who took part in the discussion still thought this the only practical treatment.



## SCLERODACTYLIA WITH CALCAREOUS CONCRETIONS: WITH REPORT OF A CASE.

BY GEORGE MANGHILL OLSON, M.D., MINNEAPOLIS.

DEFINITELY formed cutaneous caleuli, or calcareous concretions of the skin and underlying subcutaneous tissue, are of rather uncommon occurrence.

In 1911 Thibierge and Weissenbach<sup>1</sup> reported a case of scleroderma and sclerodactylia with calcareous concretions, and gave a summary of eight other cases that had been reported in the medical literature up to that time. Of these cases, the first was reported in Switzerland in 1878 by H. Weber,<sup>2</sup> who, however, considered the calcareous concretions as a form of gout. The remaining seven cases were reported from various countries of continental Europe.

In 1911, Scholefield and Weber<sup>3</sup> reported the first case in England, the patient, a woman of fifty years, having marked sclerodactylia with calcareous concretions.

In November, 1912, Davis<sup>4</sup> reported an additional case in England.

### CASE REPORT.

The patient, a young lady of twenty-seven years, married, was first seen by me on April 17th, 1916. She complained of circulatory disturbances of the hands and a marked hard infiltration of the fingers. At various times ulceration had occurred with the extrusion of calcareous concretions.

The condition had existed for ten years, beginning with numbness and poor circulation in the fingers and hands. Later the fingers became stiffened and hard masses, almost like fibromas, appeared in the tissues of the fingers, and near the olecranon. Some of the masses in the fingers had broken down and discharged hard, gritty, calcareous concretions.

An examination of the hands showed a very typical sclerodactylia, all the fingers appearing infiltrated and shiny. When exposed to the cold, the fingers appeared dead white, blue white or purple. The sclerodermatous infiltration involved especially the palmar surfaces of the first phalanges. On the palmar surface of the left thumb there was a circumscribed, hard nodule, and two large nodules near the left olecranon.

The patient had quite severe mitral disease and Dr. Dreisbach informed me that at one time compensation had been poor. In general, however, the patient had been in quite good physical condition.

The patient stated that at times the toes felt numb, but they showed no infiltration and are apparently normal.

### THE CALCAREOUS CONCRETIONS.

The calcareous concretions in the above case varied in size from a pin head to a small pea. They were white in color, rather soft and



brittle, and evidently composed very largely of carbonates, as marked effervescence occurred on the addition of nitric acid. Urates and uric acid were absent, showing that the concretions were not gouty in nature.

The calcareous concretions in the cases reported have varied in size from a small pea to twenty centimetres in diameter. Chemically, they are composed chiefly of calcium carbonate, with some calcium phosphate. Urates and uric acid are always absent.

The calcareous concretions have been found mainly in scleroderma of the fingers, although they have also been found in scleroderma of other regions, as the elbow, neck, knee, hip, buttocks, etc.

### DIAGNOSIS.

In the diagnosis of scleroderma with calcareous concretions, we must consider, in addition to those diseases that resemble scleroderma, the conditions of the skin in which calcareous concretions are found.

Cutaneous calculi or calcareous concretions have been reported in the following conditions of the skin:

1. TUMORS. Lipoma, fibroma, cystic adenoma of the sweat apparatus, epithelioma, epithelioma calcifié, epithelioma of Malherbe.
2. AFFECTIONS OF THE SEBACEOUS GLANDS. Milium, especially milium of the scrotum, sebaceous cysts, sebaceous atheromata.
3. CHRONIC INFLAMMATORY CONDITIONS. This includes especially the caseous forms of tuberculosis.
4. CALCAREOUS GRANULOMA. Darier. Peyri. Reynes.
5. CYSTICERCUS DISEASE.
6. CALCIFICATION IN SUBCUTANEOUS VEINS.
7. CALCIFICATION IN SUBCUTANEOUS ARTERIES.
8. CALCAREOUS METASTASES IN THE SKIN. JADASSOHN. Lime metastases or the metastatic calcification of Virchow consists in the resorption of lime salts from bones in the aged, and the deposit of these lime salts in the various normal tissues.
9. FATTY TISSUE CALCULUS. Calcification of minute subcutaneous fat lobules in front of the tibiæ in elderly people. This constitutes the *Fettgewebssteine* of the Germans.
10. TRUE OSTEOMA IN SUBCUTANEOUS TISSUE OR SCARS.
11. GOUT.

Of the above mentioned conditions in which calcareous concretions may be found, none should cause very much difficulty in differentiating clinically from scleroderma or sclerodactylia, with the possible excep-

tion of tophaceous gout. And in gout the calcareous concretions contain uric acid and urates, that are absent in calcareous concretions of scleroderma.

Morvan's disease resembles sclerodactylia, but the syringomyelic dissociation is absent in sclerodactylia.

**X-RAY DIAGNOSIS.** The calcareous concretions in scleroderma are very clearly shown in X-ray plates. Undoubtedly many patients with sclerodactylia have unsuspected calcareous concretions, the presence of which would be shown by the X-ray.

**THE WASSERMANN REACTION.** Many patients with scleroderma have positive Wassermann reactions, and are apparently syphilitic in nature. My patient and also her husband showed an absolutely negative Wassermann, and neither had any history or symptoms of syphilis.

**TREATMENT.** The treatment is that of ordinary sclerodactylia. In the patient whose report is given in this paper, avoidance of chilling of the hands, massage and the administration of thyroid have apparently been of some value. The condition of the hands is better during warm weather, so that possibly a residence in a warmer climate would be beneficial. The calcareous concretions, if troublesome, may be removed by the knife.

#### SUMMARY.

1. Sclerodactylia and scleroderma in rare instances are complicated by the presence of calcareous concretions or cutaneous calculi.
2. Diagnosis can be made before the extrusion of the calcareous concretions by the use of the X-ray.
3. The more general use of the X-ray in sclerodactylia would probably show that the presence of calcareous concretions in this condition is more common than is indicated by the very few cases that have been reported.

#### REFERENCES.

- <sup>1</sup> THIBIERGE AND WEISSENBACH. *Ann. d. dermat. et d. syph.*, 1911, ii, p. 129.
- <sup>2</sup> WEBER. *Correspondenz-Blatt für Schweizer Aerzte*, 1878, p. 622.
- <sup>3</sup> SCHOLEFIELD AND WEBER. *Brit. Jour. Dermat.*, September, 1911.
- <sup>4</sup> DAVIS. *Amer. Jour. Dermat. and Gen.-Urin. Dis.*, November, 1912.

## CLINICAL REPORT.

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### A PIGMENTED STRIPE IN THE THUMB NAIL.

BY DOUGLASS W. MONTGOMERY, M.D., SAN FRANCISCO.

THE following is the description of a condition which I have never observed before and which I have never seen mentioned. It occurred in the person of a Jewish violinist, thirty-six years of age, who consulted me April 6th, 1915, on account of an eczema of the hand.

It was first noted by me after I had successfully treated the eczema by X-rays and had ascertained from him that he had acquired syphilis some years before. My first thought was that it was of recent occurrence, as I had just seen it, and the patient had never previously noticed it. I therefore had to consider whether it might result from syphilis, from eczema or from the application of the X-rays. I finally concluded that it was not caused by any of these, and that it likely was a most curious and interesting pigmented naevus, which had escaped the patient's notice.

As previously indicated, he consulted me on account of an eczema that had appeared on the web between the second and third digits and in the hollow of the left hand in February of the previous year. There were no other eczematous patches.

There was marked congestion of the general cutaneous surface, the skin of the face was seborrhœic and blotchy red, and there was considerable dandruff of the scalp. There was lichen albus over the abdomen, and over the tip of both olecrana, which over the olecrana later developed into frank seborrhœic eczema.

He had acquired syphilis in 1903, for which he had been to Arkansas Hot Springs several times and had received an infusion of salvarsan July 4th, 1914. A month previous to coming to me, a Wassermann had been taken and was found negative.

He had the digestive disturbances so frequently found in those who are seborrhœic, and he was afflicted with low frontal headaches, at times of terrific intensity. The renal function was normal. His diet was not one suitable to a man of his sedentary occupation and he took very little exercise.

The eczematous lesions were dull red with no accurate boundaries, scaly, and the interdigital patch was weeping at the time he consulted me. There were very few subjective symptoms but the mere presence of the trouble in the palms was a torment, as skin lesions often are to those who have acquired syphilis and who imagine that all such trouble must arise from this infection.

Under topical applications, dietetic régime, exercises and internal treatment, the eczema improved vastly, but from time to time there would appear an erythematous blush, or a papular or even a vesicular eruption. Finally X-rays were resorted to. There were in all three exposures, of fifteen minutes each, with a medium tube, placed at four inches distance. These were given on Oct. 4, Oct. 19, and Nov. 4, 1915. On Dec. 14, over a month after the last X-ray exposure, the patient came in with redness and a burning sensation over the palmar surface of the ball of the left thumb, which comported itself in every way as an X-ray burn of moderate intensity. The interesting things about it were, the extreme tardiness of its appearance, and its greater intensity over the ball of the thumb. This latter feature was accounted for by the fact that the



patient's thumb was not bound back while administering the rays, and it, therefore, naturally closed in on the palm during the treatment. I remember several times myself putting his thumb back in position against the surface on which the hand was resting. I was not then aware of the simple device of a cardboard splint, suggested by Schäffer, to keep the palm flat.

On Dec. 18, four days later, I first noticed a discolored band, three mm. broad, running up the centre of the thumb nail from the base to the free edge. The lateral edges of this band were clearly marked and absolutely rectilinear. The band could be seen through the nail fold, where it looked bluish, then it crossed the lunula, then the body of the nail, where it was bluish brown, and ended at the free edge. It could be distinguished by looking at the cut surface of the free edge just as well as by looking at the upper surface, and the pigment at the free edge could be seen to lie in the whole thickness of the nail, but did not seem to exist in the nail bed below it. The surface of the nail was a little rough and chipped and a little fluted, and xylol poured upon the surface, filling up these inequalities, rendered the pigmented band more distinct.

The patient said that he lost this nail, about two years before, as a consequence of some swelling of the thumb, the nature of which he did not know.

My first conjecture was that the discoloration was due to some curious action of the X-rays. This was disproven by the fact that the pigment was in the substance of the nail and involved its whole length, and also evidently its whole thickness, and therefore must have been produced in the nail groove at the time of the nail formation, which for the older portions of the nail was six months before. The X-raying was done only one or two months before, so, therefore, it was impossible for the X-rays to have caused the pigment in the older portions of the nail.

This pigmented stripe did not look like the result of either syphilis or the trouble, before mentioned, in which the nail was shed, or the eczema, as all of these were inflammatory, and would cause other trophic disturbances of the nail, such as ruffles. The process would also vary with the varying intensity of an inflammatory lesion, while the lesion in question was eminently steady in its production of pigment.

The most reasonable explanation for the phenomenon seems to be that it was the result of a pigmented naevus situated in the nail groove, and producing pigment in the newly formed nail, that grew out with the natural growth of the nail. That it was unobserved by the patient till I drew his attention to it, is nothing strange. People untrained in watching natural phenomena are very unobservant in such matters.





## SOCIETY TRANSACTIONS.

## CLINICAL SESSION OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, HELD AT THE FREEDMEN'S HOSPITAL, WASHINGTON, MAY 7, 1916. CASES SHOWN AT THE CLINIC ON VISCERAL SYPHILIS.

CASE 1. (Presented by Dr. L. T. Wright.) Negro male, aged 7 years. The family history was unimportant; there had been no miscarriages, and no history of syphilis in the parents. The child had had varicella, measles and whooping cough. One year ago he had a suppurating inguinal adenitis, following an abrasion of the leg. Six days before admission to the hospital he had a "fit," which, according to the mother's description, was convulsive in character, the attack lasting about five minutes, and confined to the right side. Three hours before admission he had a similar attack, complicated by aphasia. No aura was ever present.

Physical examination while in the hospital showed that the forehead was bulging. The irruption of the upper incisor teeth was defective. There was a spastic paralysis of the left arm and leg. Reflexes on the left side were exaggerated. The child could not speak. The blood and urine were negative, but the Wassermann was strongly positive. The spinal fluid showed a cell count of ten, while the Nonne and butyric acid tests for globulin were strongly positive.

CASE 2. (Presented by Dr. L. T. Wright.) Negro male, aged 5 years. No family or past history could be obtained. The skin of the face showed papules of a dusky red color that were suggestive of syphilis. The cornea of each eye was hazy and there was central injection of the ocular vessels. There was marked photophobia. The blood Wassermann was strongly positive, but the spinal fluid reaction was negative. The ophthalmologist considered the case one of syphilitic kerato-iritis.

CASE 3. The patient was a negro male, aged 23 years, who entered the hospital for markedly enlarged glands in the left anterior triangle of the neck. The Wassermann reaction was strongly positive and the glands speedily diminished in size under mercurial treatment, but not until several had broken down. The clinical picture was that of tuberculous adenitis. This type of glandular syphilis is rather common in the negro.

CASE 4. (Presented by Dr. E. A. Robinson.) A negro male, aged 46 years, entered the hospital because of shortness of breath, and pain in the right shoulder that radiated down the arm. The family history was unimportant. The patient had been a hard worker all of his life. He denied any venereal infection. His illness began about two months before admission to the hospital, with pain in the right side of the chest, which grew worse and extended to his shoulder and arm. Physical examination showed a well nourished man. His right pupil was markedly contracted and sluggish in response to light. In the right supraclavicular space was a mass that had an expansile pulsation. There was here a systolic bruit but no thrill. Percussion showed the heart to be enlarged and auscultation revealed a systolic murmur at the apex, transmitted to the axilla. X-ray examination showed an aneurysm of the ascending and transverse arch of the aorta with a probable involvement of the innominate. No physical signs could be demonstrated in the chest. The Wassermann was strongly positive. This was a case showing chiefly symptoms rather than physical signs.

CASE 5. (Presented by Dr. E. A. Robinson.) A negro male, aged 48 years, entered the hospital because of shortness of breath. He denied any history of syphilis but admitted gonorrhœal infection. His trouble began about five months ago with cough and shortness of breath. On the least exertion he had severe attacks of shortness of breath, as though the bronchi were closed. Physical examination showed a systolic thrill on a level with the base of the heart. No dullness could be mapped out, but the X-ray showed an aneurysm of the ascending and transverse portions of the aorta. The Wassermann was strongly positive.

CASE 6. A negro male, aged 56 years, entered the hospital because of symptoms arising from an enlarged prostate. A pulse pressure of nearly 100 attracted the attention of the interne, who then found a slight diastolic shock on the right side of the sternum. X-ray examination revealed an aneurysm of the descending arch of the aorta. The Wassermann was strongly positive. This case showed no symptoms, and but few of the physical signs of aneurysm and might easily have been overlooked.

CASE 7. (Private patient presented by Dr. L. S. Ecker.) White, female, aged 36 years. She consulted Dr. Ecker because of shortness of breath; physical examination showed a well marked case of aortic insufficiency and of aortitis. The Corrigan water hammer pulse, the shaking of the head, and the pulse in the nails could easily be distinguished. The Wassermann was strongly positive and there was a history of specific infection, but none of rheumatism.

CASE 8. Negro girl, aged 23 years, shown for a gumma of the frontal bone and an iritis. There had also been a prepatellar bursitis that may have been syphilitic in character.

CASE 9. Negro male, aged 34 years, dental student, shown for diagnosis. The illness had begun ten days before, with a generalized papular eruption that had itched intensely. The papules were grouped but discrete, and were round and semiglobular, quite characteristic of syphilis. However, there was no trace of chancre, only one or two glands were enlarged and the Wassermann was absolutely negative. On presentation the character of the eruption had changed somewhat, for the papules were arranged in lines, somewhat like lichen planus. Some of the papules were spreading peripherally and clearing in the centre, as pityriasis rosea might do. There was a group of papules on the chin, strongly suggestive of syphilis. A biopsy later revealed that the condition was neither syphilis nor lichen planus, but probably pityriasis rosea.

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#### PHILADELPHIA DERMATOLOGICAL SOCIETY.

Regular meeting, Oct. 16, 1916.

FRANK CROZER KNOWLES, M.D., *Chairman.*

FIBROSARCOMA. Presented by DR. PFAHLER.

M. W., male, white, aged 9 years. About six months ago, a blue mark was noticed on the left arm, at the outer side of the elbow. The patient had accompanying pains in the fingers. The local doctor did not think it of any importance, and advised applications of hot water. Later, the patient consulted three dermatologists in New York, one of whom gave the diagnosis of tuberculosis; another of sarcoma, and a third of syphilis. The patient was admitted

to a hospital, when the Wassermann was found to be negative; the tuberculin test was also negative. A tumor the size of a walnut had developed and was removed on May 2nd, 1916, the following being the pathological report:

The portions of the tumor removed May 2nd, 1916, reveal a tumor of the connective tissue type. The cells are small, spindle shaped; the nuclei are round, irregular, fairly rich in chromatin and show very few mitotic figures. The cells are not compactly arranged, the amount of intercellular substance being considerable; in places there are large strands of firm, fibrous tissue. The tumor is of the infiltrating variety. Diagnosis: fibrosarcoma.

The patient was kept in the hospital for five weeks. The joints became swollen and numerous elevated, bluish nodules began to appear all over the body, especially over the anterior portion of the trunk. One of these nodules was removed on August 31st, 1916, the pathological findings being as follows:

The sections of the tumor removed on August 31st, 1916, show, in certain areas, the identical picture described above. In other portions, there is considerable necrosis, and scattered here and there, are structures that resemble miliary tubercles very closely. These structures consist of small central areas of coagulation necrosis, with giant cells in the immediate vicinity. Indeed, there are a considerable number of giant cells throughout the specimen.

Practically no distinction can be made between the tumor and the inflammatory tissues. The superficial portions show extensive ulceration with necrosis and numerous bacterial colonies.

The patient had been given numerous X-ray treatments by the speaker since that time, with the result that the lesions had decreased fully two-thirds in size—in fact, there was very little elevation, and only dark pigmented areas remained. Several lesions over the left eye, a week prior to the patient's presentation before this Society, were pea to bean size, had considerable elevation and were distinctly purplish. After one X-ray exposure, they presented only a faint purplish color.

A differential blood count had not been made. There was no glandular involvement and the scars at the site of the operations had become keloidal in character.

#### CASE FOR DIAGNOSIS. Presented by DR. STELWAGON.

Male, white, aged 17 years. Native of Porto Rico. Three years ago, the patient noticed a dryness and brittleness of the nails, with considerable scaling. This had continued, leaving in addition deep furrows. A year and a half ago, the patient noticed an eruption on the scalp. He gave no definite history of any individual lesions, except that they had never been pustular. Upon presentation, the greater part of the occipito-frontal region was covered with depressed scars of considerable size. There was almost complete atrophy of the hair follicles, with not enough hair remaining around the borders to cover the scars. One year ago, the patient noticed, on the left side of the face and in front of the ear, an inflammatory area which continued for about six months, leaving considerable pigmentation with atrophy of the hair follicle. There had never been any pain nor itching. The speaker thought that the diagnosis lay between folliculitis decalvans, lupus erythematosus and tinea favosa, with an entirely different condition on the nails.

#### DISCUSSION.

DR. HARTZELL was inclined to look upon it as a case of lupus erythematosus.

DR. SCHAMBERG said that he had seen this same condition several times and while his first diagnosis was that of lupus erythematosus, he felt that it was an entirely different disease—a complete entity that should be given a distinctive title.



## CASE FOR DIAGNOSIS. Presented by DR. SCHAMBERG.

Male, white, aged 44 years. The patient stated that on the 5th of September, 1916, he was on a gunning trip, after having spent the entire summer in the mountains, taking an open air rest-cure. He noticed on that date, a slight eruption on the body which he assumed to be urticarial. (This man had done considerable social service work, was very intelligent, and gave a remarkably clear history.) A generalized papular eruption later developed and was diagnosed as lichen planus. He came under the care of the speaker the first of October and the entire body was covered with a uniformly distributed papulo-erythematous eruption. Here and there were scattered small vesicles which would remain for only a day or two and then be absorbed. The patient was extremely nervous, very weak and apprehensive, and had been taking rather large doses of veronal for sleeplessness, before this vesicular eruption appeared. Thirty-six hours before the time of presentation, he developed bullæ in the groin, and on presentation there were probably twenty bullæ on each of the genito-crural folds, varying in size from one-half to one inch. Some had broken of their own accord, and on account of the situation all were very painful. Before this bullous eruption appeared, the diagnosis of vesicular eczema was considered, but whether the case will develop into a dermatitis herpetiformis or a true pemphigus was problematical.

## CASE FOR DIAGNOSIS. Presented by DR. HARTZELL.

Female, white, aged 52 years. Over the lower legs, anteriorly and posteriorly, were numerous lesions averaging in size from that of a pea to that of a twenty-five cent piece. They were brilliant red in color, fairly sharply defined and many showed central necrosis. All the lesions were isolated: in a few instances, however, they occurred very closely together, forming apparently larger plaques, but the outline of the individual lesions could be plainly seen on careful inspection. There were no lesions above the knee nor in any other part of the body. The patient gave the history of having had an abscess in the palm of the hand some time before the appearance of this eruption, and which was in turn preceded by ulcers in the mouth. She also said that the eruption would come out very quickly—"over night"; not all the lesions would appear at once but occurred in successive crops, a few at a time, until there were from forty to fifty on each leg. The Wassermann was negative. This patient was an inmate of the Philadelphia General Hospital, and Dr. Gaskill said that he had seen her the day prior to the expiration of his service and the lesions at that time were much more violaceous in tint than upon presentation; also that apparently few lesions had developed in the intervening five weeks. When first seen, a diagnosis of papulo-necrotic tuberculide was considered, but the diagnosis was by no means definite.

## DISCUSSION.

DR. STELWAGON was inclined to think that a diagnosis of erythema induratum and also that of a staphylococcia must be considered, but it would be impossible to consider either diagnosis with the history of the violaceous color at the time of onset.

## SQUAMOUS CELL CARCINOMA. Presented by DR. PFAHLER.

Dr. X., female, white, aged 50 years. The patient, who was a physician, had noticed a growth on the right side of the tongue for some months, and about three years ago, a portion was removed for pathological examination, with the



foregoing diagnosis. Numerous surgeons saw this condition and advised its complete extirpation, which would require the removal of at least one-half to two-thirds of the tongue. This treatment was refused, and the speaker treated it by electrical coagulation, followed later by radium and X-ray exposures over the submaxillary region. This was done seventeen months ago, and there was apparently a perfect cure.

**RODENT ULCER FOLLOWING RHINOSCLEROMA.** Presented by DR. STELWAGON.

J. F., female, white, aged 52 years. The patient was presented before this Society on November 11th, 1911, with an unchallenged diagnosis of rhinoscleroma. She had been treated with the X-ray and the tissue had broken down. Radium was afterwards used but the tissue continued to break down beyond the point of application, until at the time of presentation the entire nose was gone as well as the upper lip. A piece of tissue was excised by the Pathological Department of Jefferson Hospital, and the diagnosis made of basal cell epithelioma on a gummatous syphilide, with numerous spirochæte in the tissue. The Wassermann had been taken several times and was always negative. Several doses of salvarsan had made no impression on the lesion. Comment was made about the finding of the numerous spirochæte in this gummatous tissue.

DISCUSSION.

DR. GASKILL explained that members of the Pathological Department had remarked about this fact to him and that they were conducting a series of experiments to see if the spirochæte refringens, which were normally found in the mouth, could penetrate the tissue and produce such a picture of cell infiltration. At the present time, the process seemed to be held in abeyance, and a plastic operation will be performed. This case was recalled by several members of the Society and they all agreed that at the time of its first presentation it was that of a typical rhinoscleroma and bore no resemblance to tertiary syphilis.

**VESICULAR SYPHILIDE.** Presented by DR. HIRSCHLER.

Female, colored, aged 5 weeks. This patient had been first seen by the speaker about ten days ago when she had numerous lesions on the face, hands and feet, as well as mucous patches and snuffles. The lesions were nearly all vesicular in character, looking, as the speaker said, "like little pearls," on the dark skin. The mother gave a history of having had an eruption some months before the birth of the child, treated with two injections of salvarsan. Another dose was given the mother one week ago. The child was breast-fed and she showed considerable improvement since the last salvarsan injection, given to the mother. The eruption was not nearly so marked but there were still some vesicles to be seen.

DISCUSSION.

DR. HARTZELL remarked that he considered a vesicular eruption one of the rarest of syphilitic manifestation, as he had seen only one other case.

**LARVA MIGRANS.** Presented by DR. GASKILL.

Female, white, aged 11 years. Three months ago the patient was bathing in the ocean and noticed a stinging sensation on the upper part of the inside of the left thigh. Her mother said she thought it a mosquito bite, and gave it no

attention. The parasite, since then, had traveled in a serpiginous line to the extent of about eighteen inches, the earlier route still being discernible by its brownish pigmentation. A piece of tissue, including the distal end, has been excised and every effort will be made by the speaker to section the parasite *in situ*.

#### TUBERCULOSIS CUTIS. Presented by DR. STRICKLER.

Female, colored, aged 16 years. There was no question about the diagnosis of tuberculosis cutis. This eruption, which was situated on the right cheek, the right side of the nose, on the forehead, with a lesion the size of the palm of the hand, on the abdomen and one small lesion on the left arm, was typical. The patient had been given four injections of tuberculin, 1/20,000 of a milligram, at intervals of a week, with marked improvement. After the second injection, there was considerable general reaction, nausea and vomiting, with a rise in temperature. There had been no external treatment given during this time. Dr. Hartzell and Dr. Knowles had seen this patient at the University Hospital and Dr. Gaskill had seen her at the Jefferson Hospital, and they were all very much impressed with the improvement which had taken place in such a short time.

#### CASE FOR DIAGNOSIS. Presented by DRs. STELWAGON AND GASKILL.

Male, white, aged 34 years. The patient presented a light brown, pigmented condition of the trunk, extending down from both axillæ to the waist line and over the entire abdomen. This pigmentation was very light in color, and scattered over this well defined area were a few, not more than fifteen, papulovesicular lesions. The patient said that the eruption started four years ago; had always been the same and that during that time there were successive scattered vesicles exactly the same as were presented, but that there were never very many at one time; that there were absolutely no itching nor subjective symptoms. There was marked teleangiectasis on the inner side of both arms. No diagnosis was offered.

#### TINEA SYCOSIS. Presented by DRs. STELWAGON AND STRAUSS.

Male, white, aged 26 years. Six months ago, a small vesicular lesion appeared on the right side of the upper lip which, under the application of zinc oxide ointment, soon entirely disappeared. One month ago, it recurred, and was now about the size of a dime, with considerable induration and covered with a gray scale. Along the submaxillary border, on each side, were about ten or twelve distinct nodules, pea size and extremely inflammatory. The diagnosis lay between a sycosis vulgaris and a tinea sycosis, but as the patient had only been seen for the first time on the day of presentation, no pathological examination had been made.

#### TINEA PROFUNDA. Presented by DR. GASKILL.

Male, white, aged 21 years; musician by occupation. On the wrist of the right hand was a horseshoe-shaped lesion, about three inches in diameter, very sharply defined, and at one or two points there was distinct vesiculation. Considerable crusting was present and at places exudation. The patient stated he had had this eruption for one year and that at the beginning, on the application of ointments, it would apparently disappear for the time only, recurring in a very few days.

## CHICAGO DERMATOLOGICAL SOCIETY.

Regular Meeting, April 18, 1916.

UDO J. WILE, M.D., *President*.

## ADDISON'S DISEASE? Presented by DR. SŁOMINSKI.

A Polish cabinet maker, aged 45 years, had had an itching eruption in the flexures of the elbows and knees for six years. Nine months ago this eruption spread over the body and face. Six months ago the pigmentation became noticeable. When presented before the Society, he had a very deep pigmentation of large areas on the face, chest, back and thighs, alternating with very pale areas. Pigmented macules were present on the lips and buccal mucosa.

The skin of the forearms and hands was thickened and scaling. The case was presented by courtesy of Dr. Williamson, in whose service at the Cook County Hospital it belonged. The patient complained of progressive weakness and loss of weight amounting to forty pounds in a few months. He says he took "drops" for some time.

## DISCUSSION.

DR. ORMSBY was of the opinion that the disorder was a generalized eczema, induced by a staphylococcic microorganism. He had seen such cases, which really represented those described as eczematoid dermatitis. He could not account for the pigmentation, but he did not believe it occurred as a part of the eczematous process; and further he believed that the case could hardly be called one of dermatitis exfoliativa.

DR. McEWEN considered it an arsenical pigmentation, whether preceding or following the dermatitis he did not know.

DR. HARRIS said that it was a case of general exfoliative dermatitis with hyperidrosis.

DR. STILLIANS was struck by the sharply contrasting areas of pale skin next to areas that were almost black. He believed it a vitiligo combined with a pigmentation like Addison's disease. He had recently seen such a combination in a case of metastatic sarcoma with involvement of the adrenals.

DR. WILE could not agree that there was a loss of pigment. The presence of pigmentation on the mucosa with a loss of forty pounds suggested Addison's disease. He suggested that the man be examined for evidences of tuberculosis.

DR. ZEISLER asked if the patient had taken a good deal of arsenic. He did not put much weight upon the pigmentation in the mouth and thought the sharply circumscribed patches on the skin did not look like Addison's disease. He would suggest the possibility of a malignant (sarcomatous) process without tumor formation.

## ERYTHEMA MULTIFORME WITH MARKED PIGMENTATION. Presented by DR. McEWEN.

A Jewish tailor, about 50 years of age, had his first slight attack in December, 1915. He came into the hospital February 20th, 1916, with a very dark bluish-red eruption of the face and backs of the hands, and a severe stomatitis. The disease was ushered in with chills and vomiting. Since then he had had three attacks, each one more severe than the preceding one. The eruption had the same livid color each time, leaving a deep pigmentation which had no time to clear up between attacks. The last attack involved the trunk as well



as the extremities, but the mouth was not severely affected, possibly, because he had had all his teeth, which were very bad, extracted. He presented deep brown pigmented areas with gyrate borders, involving nearly the whole face and the backs of the hands. The limbs and trunk are dotted with large, deeply pigmented macules. On the face some of the purplish congestion was still seen.

#### DISCUSSION.

DR. ORMSBY was of the opinion that it was a toxic erythema of some kind.

DR. MACEWEN said that when the patient entered Cook County Hospital he showed a typical erythema multiforme, but had been sent in as a case of erysipelas because of the intense color of the lesions.

#### BLASTOMYCETIC DERMATITIS. Presented by DR. HARRIS.

A negro porter, aged 37 years, said that the disease began nine years ago, on the scrotum. Since then it had progressed upwards over the penis and abdomen and downward and backward over the perineum. When shown before the Society, he presented a broad belt of warty, elevated tissue, bathed in fetid pus, extending across the abdomen from one iliac crest to the other. Below this the abdominal wall consisted of heavy scar tissue. The penis was much deformed by scarring. Smaller patches of dermatitis were seen on the thighs, and the gluteal fold was filled with blastomycetic tissue, continuous with a lesion extending out over part of the right buttock. His feet became oedematous when up and about, and he occasionally had a little albumin in his urine. He had a small lesion on the tip of the right thumb.

#### DISCUSSION.

DR. HARRIS remarked that this was the third case of blastomycetic dermatitis on the service at Cook County Hospital within two months.

#### MULTIPLE BENIGN HÆMORRHAGIC SARCOMA. Presented by DR. ZEISLER.

A young man who gave a history of an attack of sore throat over a year ago, accompanied by swelling of the legs and thighs, said that when this swelling disappeared, areas of bluish-red infiltration were left on the legs. His Wassermann reaction was negative. The lesions consisted of irregularly shaped, dark bluish-red, infiltrated patches, tending to ulceration, situated about the toes, ankles and up to the middle of the lower legs.

#### DISCUSSION.

DR. LIEBERTHAL said that as he first looked at the case at a distance it appeared like one of Kaposi's multiple hæmorrhagic sarcoma. On closer inspection, Raynaud's disease and lues must be thought of, although the small lesions between the toes strongly resembled Kaposi's disease. The microscope would decide the diagnosis. He further said that deep infiltration and ulceration did also occur in Kaposi's sarcoma.

DR. HARRIS thought it a recurrent pus infection in a patient of low vitality, followed by sclerosis, like some cases of elephantiasis.

DR. WILE could not agree with Dr. Harris. He believed that gangrene due to arteriosclerosis usually occurred in senile patients. He thought the appearance of the nodes was very much like those of Kaposi's sarcoma.



DR. ZEISLER said that his diagnosis was hæmorrhagic sarcoma. He had one other case much like this one. He said the ulcerations and deep furrows in this case were peculiar, but the two sharply circumscribed tumors on the toes were characteristic. He believed the ulceration to be an epiphenomenon.

#### ERYTHEMA OF THE UPPER LIDS. Presented by DR. HARRIS.

A young woman, aged 30 years, had had the condition for nine weeks. It began with sharp pains in the eyes, followed by the eruption. Three weeks later her eyes were refracted and glasses prescribed, without any benefit to the skin trouble. She complained of smarting and burning sensations in the lids with marked photophobia, but had never had any itching. Both upper lids were bright red, swollen and scaly.

#### DISCUSSION.

DR. FOERSTER reported having seen several similar cases in the last few months. He said that the itching, burning and œdema lasted for some time and then subsided for a time, only to recur. In several instances it had been traced to irritation of the conjunctiva by particles of face powder, as described by Dr. N. M. Black.

DR. LIEBERTHAL considered it a case of eczema of the lids.

DR. STOKES thought that it resembled several cases of seborrhœic dermatitis of the lids recently seen by Dr. Pusey.

DR. ZEISLER considered it a case of chronic dermatitis due to mechanical causes.

DR. HARRIS thought at first of eczema, but there had never been either exudation or itching. Instead, there had been marked photophobia and pain back of the eyeballs. The patient's refraction had been corrected without benefit.

#### DERMATITIS HERPETIFORMIS WITH VEGETATIONS. Presented by DR. McEWEN.

A negro, aged 38 years, first entered the Cook County Hospital in October, 1914, because of a severe sore throat and stomatitis. Two weeks later a vesicular eruption appeared in the axillæ and about the genitalia, resulting in deeply pigmented nodules, which persisted for a long time. The second attack occurred in March, 1915, affecting again the mouth, axillæ and genitalia. In February, 1916, the eruption for which he was presented, appeared. Itching had always been a marked feature. He had a circinate maculo-papular eruption, very dark in color, over the trunk and limbs. Vesicles could be seen in a few places, and in the axillæ, groins, on the perineum and about the mouth were many black vegetations.

#### DISCUSSION.

DR. ORMSBY considered the case one of dermatitis herpetiformis with vegetations. He stated that it was the general opinion that most cases of pemphigus vegetans, so called, that recover, were in reality examples of dermatitis herpetiformis with vegetations. This subject was thoroughly clarified by Dr. Winfield a few years ago. In the latter's study of the literature, he demonstrated that the so-called benign cases of pemphigus vegetans were probably dermatitis herpetiformis, whereas the malignant cases were true pemphigus vegetans.

DR. ZEISLER would consider first pemphigus vegetans, and then syphilis. He thought the mouth lesions looked like condylomata lata.

DR. HARRIS said that he had followed this case with great interest for two years. At first it looked like pemphigus with severe mouth lesions. Then the lesions in the axillæ and about the genitalia became hypertrophic. The patient had slowly cleared up from that attack. On his recent return to the hospital his whole body was covered with circinate lesions which looked like wheals, which spread peripherally over the trunk, neck and arms.

DR. McEWEN suggested that the vegetations in this case might be expressions of the tendency in the colored race to hypertrophic skin lesions.

#### LUETIC ŒDEMA OF THE LIP. Presented by DR. HARRIS.

A woman, aged 45 years, who had had two gummatous lesions of the lower lip accompanied by a very marked œdema, had been under treatment and the nodules had disappeared, but the œdema had persisted.

#### DISCUSSION.

DR. WILE referred to a similar case seen by him two years ago, with a soft swelling of the lip without infiltration.

DR. HARRIS said that his first case of this kind still had a swollen lip after four years. The case shown presented at first a hard infiltration which might have suggested sarcoid if the Wassermann had been negative. The patient was rapidly improving on antiluetic treatment. He said these cases interested him especially because they so closely resembled some of the cases of so-called sarcoid.

#### CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a young machinist who exhibited a linear maculo-papular lesion which extended from the right shoulder to the wrist along the inner side of the anterior surface of the right arm and forearm. It itched somewhat. He had patches of papulo-vesicular eczema in the bends of both elbows and the right knee for three months.

#### DISCUSSION.

DR. WILE said that lichen must be the first diagnosis considered, but that the lesion was not a typical example of lichen planus.

DR. HARRIS considered that it belonged in the class of cases called by the Germans "strichförmige Eruption."

#### LICHEN SCROFULOSORUM. Presented by DR. ZEISLER.

The patient was a little girl with scars in the neck resulting from tuberculous sinuses, who presented large patches of follicular-papular lesions, pale pink in color, on the back and chest and on the extremities. These had been present for two weeks. She had had some sort of eruption for several weeks, two years previously.

#### XANTHOMA TUBEROSUM. Presented by DR. STILLIANS.

The patient was a young woman who had tumors on her elbows for several years. After excision they had returned and were slowly increasing in number. They were both in and under the skin, the more superficial ones showing as

opaque yellowish nodules, from two to five millimeters in diameter. Some of the larger of the superficial ones were spindle-shaped, as if they had formed in the scars of former excisions. The subcutaneous tumors were soft and freely movable. The superficial ones were fairly firm, one of the smallest ones on the right knee being quite hard. The skin had not changed in appearance over the few lesions palpable over the right knee and both tendons Achilles. Only the recent lesions were tender and those only slightly so.

Microscopically, small areas of necrosis were seen in the cutis, surrounded by an infiltration of round cells and epithelioid cells, the latter with their long axes in lines radiating from the centres of the areas of necrosis. On staining frozen sections with Sudan III, many large and small globules of fat could be seen in the infiltrations and in some parts of the reticular layer, but no definite xanthoma cells could be found.

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#### CHICAGO DERMATOLOGICAL SOCIETY.

Regular Meeting, May 16, 1916.

UDO J. WILE, M.D., *President*.

#### XANTHOMA DIABETICORUM. Presented by DR. SHAFFNER.

A negro who was shown almost a year before, presented the same picture as when first shown. The eruption cleared up with the disappearance of the glycosuria and reappeared recently with the glycosuria again present.

The speaker presented photographs of a second case in a white individual, also obese, who showed widely distributed lesions of typical color and which were slightly umbilicated. The glycosuria was quite marked. The patient had been seen but once and therefore other findings were not available.

#### DISCUSSION.

DR. ENGMAN remarked on the unusual size of the lesions in this typical case. He said he was impressed with the idea that this type is not chemically or fundamentally different from the other types of xanthoma.

DR. HARRIS asked if the recurrence of the skin lesions was accompanied by a recurrence of the glycosuria.

DR. WILE said that it would be natural to expect glycosuria to accompany the recurrence, as the tumors were cholesteroid deposits. He believed there was no association between xanthoma and diabetes, except the fact that cholesterin accompanied glycosuria.

DR. EISENSTAEDT said that he recently had had a case without glycosuria but with hyperglycemia, which did well on a sugar-free diet.

DR. ENGMAN stated that since Lassar's work, about twenty-five years ago, on alimentary glycosuria, many cases had been reported in which a sugar-free diet was beneficial in various dermatoses. He said this could be found in Von Noorden's Alimentary Pathology.

DR. SHAFFNER asked if any work had been done on the cholesterin content of the blood.

DR. WILE referred to an article by Harry D. Schmidt in the *American Journal of the Medical Sciences*.



## CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a young woman with gyrate, salmon-colored, maculo-papular patches, partly covered by fine scales which occurred on the trunks and limbs, leaving the face and hands free. There was slight itching.

## DISCUSSION.

DR. FOERSTER thought it a possible erythrodermia in large gyrate patches. The duration, ten weeks, he considered rather short. He thought the fine scaling and the itching were against this diagnosis, and knew of several such cases that had finally proven to be premycotic.

DR. WAUGH believed it to be a seborrhœic dermatitis because of its distribution, the chest, the scalp, and the areas between the scapulæ and behind the ears being involved. He had seen several cases even more generalized than this one.

DR. SHAFFNER considered it to be a parapsoriasis.

DR. ENGMAN was inclined to think it parapsoriasis, and said that itching might occur in parapsoriasis. He had recently seen a case in St. Louis that during two years was clinically erythrodermia, but within the last few months infiltration had occurred, so that it was then clinically mycosis fungoides, although microscopically still parapsoriasis. He did not believe Arndt's dogmatic statement that the diagnosis could be made absolutely upon the histological examination.

DR. PARDEE did not consider it a parapsoriasis, but was in favor of the diagnosis of seborrhœic dermatitis.

DR. WILE stated his belief that a differential diagnosis between mycosis fungoides and parapsoriasis was sometimes impossible. He believed that many cases of parapsoriasis later developed into mycosis fungoides, and that cases of apparently clear premycotic eruption never went beyond this stage.

## CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

The patient was a young woman in apparently good health with keratosis pilaris on the arms, legs and thighs, and, in addition to this, a recent eruption, present only about ten weeks, which consisted of yellowish-pink maculo-papules, not sharply defined, discrete, and from pin head to split pea size, over the arms, forearms, chest, back and thighs. The eruption itched slightly. The Wassermann reaction was frankly negative.

## DISCUSSION.

DR. PARDEE thought of a drug eruption and of lichen planus.

DR. WAUGH considered it to be a drug rash or toxic eruption.

DR. SHAFFNER believed it to be pityriasis lichenoides chronica.

DR. ENGMAN had seen toxic eruptions like it.

DR. McEWEN thought it too long continued to be a toxic eruption.

DR. WILE stated that in his opinion it belonged to the urticaria group.

DR. FOERSTER said that he had regarded as toxic many of these urticaria-like eruptions.

DR. HARRIS said that in his opinion the itching was altogether too slight to allow of the diagnosis of urticaria. He was impressed with the punctate vascular dilatations.



## CASE FOR DIAGNOSIS. Presented by Dr. HARRIS.

The patient was a man, aged 40 years, who had had for a year an eruption of large papules on the anterior and lateral part of the neck, at the level of the top of his collar. When the lesions appeared they tickled and itched; he picked them open and extracted from them a "worm-like body." This relieved the itching.

## DISCUSSION.

Dr. SHAFFNER said he thought it a mania, occurring in individuals of much the same nervous tendencies as were seen in the cases of trichotillomania.

Dr. PARDEE said that to him it suggested the condition described by Crocker as acne keratosis. The patient extracted a horny plug from the lesions.

Dr. ENGMAN agreed that it was a case of acne keratosis. He said that Crocker also described acne excories, a disease occurring in nervous young girls. He had had a case which belonged to this group in a man who had spine-like papules develop on his bald scalp, which he scratched off as soon as they appeared.

Dr. WAUGH agreed with the diagnosis of acne keratosis. He said that Dr. Ormsby had recently had two cases with numerous lesions on the face, which were slow in yielding to treatment.

Dr. HARRIS said that he had at first considered it a neurosis, because he could find no cores. The patient had been asked to save the material scratched out, and had returned with definite holes from which tissue had been removed.

## SECONDARY SYPHILIS. Presented by Dr. HARRIS.

The patient was a man, about 25 years old, with a history of sore throat followed by a great enlargement of the cervical glands on the right side and later by a sore on the lip and an itching follicular papular eruption on the trunk, with flat papules on the prepuce, and in the palms.

## DISCUSSION.

Dr. McEWEN considered the lesion on the lip a mucous patch and the itching eruption on the body and penis as due in part to concomitant scabies.

Dr. STILLIANS confessed that he had taken the lesion on the lip for a probable chancre. He had not seen evidence of scabies, and had found itching a not infrequent accompaniment of secondary syphilides.

Dr. HARRIS stated that in his opinion the lesion on the lip was a mucous patch and the primary lesion had probably been on the tonsil.

## CASE FOR DIAGNOSIS. Presented by Dr. HARRIS.

The patient was a plumber, aged 45 years, who had had erysipelas eight weeks ago, and since then had had a bright red, rather sharply defined erythema of the nose and the adjacent cheeks, which was butterfly-shaped, with many small pustules and pitted scars upon the slightly infiltrated red base. He also had a papillomatous, round lesion on the chin and another on the back of the neck, and on the posterior pharyngeal wall there were several small ulcers, which were round and "punched out" in appearance. At the time of onset of the erysipelas he was a patient in the tuberculosis ward on account of a pulmonary involvement. He had a strongly positive Wassermann.

## DISCUSSION.

DR. PARDEE thought the whole process syphilitic.

DR. FOERSTER thought it lues, but would study the case with the possibility of miliary lupus in mind.

DR. ENGMAN asked if tubercle bacilli had been found in the sputum.

DR. HARRIS said that they had been found.

DR. ENGMAN said that the case looked to him like a lues whose lesions had been localized by the trauma of erysipelas. He had recently seen several interesting cases of this sort. A man had late syphilides localized on his shoulders, where he carried sacks of flour. A woman who had had a mastoid abscess the previous year, had scars of a subsequent papular eruption on the chin and eyebrow of that side. This year she had had a mastoid operation on the other side and following it a late papular syphilide of the chin and eyebrow of the corresponding side, distributed like a zoster.

DR. HARRIS had at first considered the case a rosacea, but as it had slowly progressed the lesion on the chin resembled tuberculosis verrucosa cutis and the pharyngeal ulcers looked like tuberculosis. He asked the opinion of those present on the possibility of its being a miliary lupoid.

DR. WILE thought it probably syphilitic. He said the lesions were not typical of either lupus vulgaris or syphilis.

DR. STILLIANS stated that he had watched the case with great interest, and still believed it luetic, in spite of the slight effect from treatment. He had thought of the possibility of a mercury-fast strain of spirochætae, and because the tuberculosis made it difficult to give the iodides, he was anxious to see what could be done with salvarsan.

LICHEN NITIDUS. Presented by DR. HARRIS.

The patient was a man, aged 32 years, with white papules of pin head size on the glans penis, some of them discrete, others confluent, which had been present for several months but had caused no subjective symptoms.

## DISCUSSION.

DR. WAUGH considered it lichen planus.

DR. SHAFFNER thought it a case of lichen albus.

DR. ENGMAN had diagnosed it the white spot variety of morphœa.

DR. EISENSTAEDT believed it to be lichen albus.

DR. WILE considered it more like morphœa. He said he had seen two cases similar to this, one with a ring-like constriction of the foreskin, typical of localized scleroderma. The second case, which was strikingly similar to this one, occurred on the glans penis.

DR. HARRIS had eliminated lichen planus and morphœa and believed it to be a case of lichen nitidus.

## MINNESOTA DERMATOLOGICAL SOCIETY.

Regular Meeting, Tuesday, October 10, 1916.

BURNSIDE FOSTER, M.D., *President*.

DERMATOBIA NOXIALIS. (BRAUER.) Presented by DR. ARMSTRONG.

Mr. D. visited Nicaragua and while there he was bitten on the scrotum by a mosquito, so he supposed. Six days later a slight, hard swelling occurred,

having a small opening at its apex. He was told that probably he had a "grub." Three weeks later, when seen here, there was a subdermal swelling about the size of a filbert, with a small opening, discharging a little serum. The lesion was accompanied by a slight boring pain. Incision permitted the extraction of the larva and healing promptly occurred. The speaker also called attention to a similar case reported by Singleton of Galveston, Texas, in the *Jour. Amer. Med. Assn.*, 1912, lviii, p. 1282.

## DISCUSSION.

DR. OLSON mentioned the report of another case of this kind occurring in a sailor at Chelsea, Mass., reported by Allan Stuart in the *Military Surgeon* of December, 1905. The manner in which the larva reaches the skin is very peculiar. According to recent observations, the *Dermatobia noxialis* lays its eggs on leaves in damp places. These eggs have a sticky substance at one end and thus become attached to the body of a mosquito, the *Janthinosoma lutzi*, and are thus conveyed to man or vertebrate hosts.

GRANULOMA PYOGENICUM. Presented by DR. ARMSTRONG.

The patient, Mr. W., a carpenter by trade, cut himself with a razor on his cheek two years ago, and a month later cut the same place again. The cut failed to heal for some time but finally did so. Six months ago, the lesion returned and had remained as presented,—a round, granulating, raised papule about the size of a large pea.

LUES HEREDITARIA TARDA? Presented by DR. ARMSTRONG.

The patient was a female, aged 34 years. The patient's mother had undoubtedly syphilis, the lesions of which started some months before the birth of the patient. Eight years ago, dark red, infiltrated lesions appeared about the alae nasi and the upper lip. These lesions healed with scarring. At the same time a similar lesion appeared on the left cheek, gradually spreading with scarring in the centre. The patient had been given X-ray treatment. A Wassermann test was refused by the patient. Mercury and salvarsan had had no effect on the lesion.

In the discussion, scleroderma and atypical sarcoid were mentioned as possibilities.

PIGMENTATION OF THE SKIN DUE TO EFFLORESCENT IRON SULPHATE. Presented by DR. BUTLER.

The patient, a young lady, had poison ivy dermatitis of the forearms in June, 1916. She was advised by a friend to apply a solution of copperas or iron sulphate. (Iron sulphate is an efflorescent salt, and upon exposure of the crystals to moist air, absorbs oxygen. The crystals then become coated with a brownish-yellow, basic iron sulphate. When the salt has thus deteriorated, it should not be used for any official purpose, as it gives a precipitate of ferric oxide.) This precipitate was lodged in the open vesicles, and either through chemical changes in the tissues or by direct tattooing, the permanent pigmentation on the forearms was produced.

## DISCUSSION.

DR. FOSTER stated that as the vesicles in poison ivy dermatitis were quite superficial, he doubted any tattooing effect in this case.



## ANGIOMA SERPIGINOSUM. Presented by DR. BUTLER.

The patient was three months old, a boy. One week after birth, the mother noticed a red swelling on the septum of the nose, which was undoubtedly a vascular naevus. A few days later the lip was involved and two weeks later there appeared a few dilated vessels on the left cheek and on the left hand. Six weeks later, the forehead became involved, a small dime-sized patch began to enlarge peripherally. The region of the sternum showed a few punctate spots which became confluent, growing peripherally, and later involuting in the centre, showing a white area. Five weeks after birth the vascular naevus involving the nasal septum ulcerated and part of the septum necrosed.

## DISCUSSION.

DR. SWEITZER suggested alcohol injections for the large angioma or vascular naevus, and called attention to the not infrequent ulceration of rapidly growing angiomas.

DR. BOREEN stated that in a large cavernous angioma of the cheek he had obtained excellent results by freezing with carbon dioxide snow.

DR. OLSON cited a case of an ulcerating, rapidly growing angioma, similar to this case, which had destroyed half of the external ear. This type of angioma showed some resemblance to an angio-sarcoma.

## LEPROSY. Presented by DR. BOREEN.

The patient, aged 30 years, married, presented herself with an eruption of many months' duration. She had been treated for myxœdema. The eruption consisted of numerous nodules about the size of a pea, located on the face. Large macular areas were present on the body but she showed no anæsthetic areas. The skin showed a bluish congestion and the lips were œdematous. Biopsy showed numerous lepra bacilli and these bacilli were also demonstrated in the nasal secretion. The Wassermann reaction was four plus.

## DISCUSSION.

CAPTAIN JOHNSON, Medical Corps, U. S. A. (by invitation) stated that the small nodules on the ears were very important in early diagnosis. Segregation was of the greatest value in preventing the spread of the disease.

DR. FOSTER cited the case of a patient with leprosy that he had treated for eleven years, and at the present time the patient was practically well. He stated that there was very little danger of the spread of the disease in this state.

DR. OLSON stated that we should follow the practice that obtained in all countries that had any extensive scientific experience in dealing with leprosy, as Norway, Sweden, Hawaii and the Philippines. These countries had all adopted segregation of all cases. All patients with leprosy in the United States should be sent to a national leprosarium.

## DERMATITIS HERPETIFORMIS. Presented by DR. BOREEN.

The patient, a man, aged 31 years, had had an eruption of several years' standing, with frequent acute exacerbations. He presented erythematous areas and vesicles with an erythematous halo. The lesions were symmetrically arranged and associated with intense itching.



## DISCUSSION.

DR. SWEITZER suggested the use of staphylococcus vaccine.

DR. OLSON mentioned the use of emetine in this condition, as suggested by Engman.

DR. IRVINE stated that he had given ipecac internally to one patient with this disease, but without benefit.

DR. BUTLER stated that he understood that emetine was of no value in this condition.

## LICHEN PLANUS HYPERTROPHICUS. Presented by DR. BOREEN.

The eruption in this patient, a female, aged 30 years, consisted of large, scaly patches on the extensor surfaces of the arms, almost typical of psoriasis. However, on the legs, back and lower extremities were found typical lichen planus papules. Itching was severe.

## EPIDERMOPHYTOSIS OF HAND. Presented by DR. SWEITZER.

Miss S., aged 22 years, had had this disease for two years. Deep-seated vesicles had appeared, finally drying and scaling. Recently an acute attack had occurred and numerous vesicles were present. The fungus was demonstrated, and treatment instituted with Whitfield's ointment. Marked improvement had resulted.

## SYPHILITIC TINNITUS AURIUM AND DEAFNESS. (Two Cases.) Presented by DR. OLSON.

The first patient was a man, aged 42 years. Syphilis was acquired four and a half years ago and the patient had no treatment, the initial lesion having been treated locally by a quack. Eighteen months ago, ringing in the right ear with some deafness was noticed by the patient. This condition had grown progressively worse, accompanied by other symptoms, as loss of smell and headache. Three months ago he had symptoms of marked cerebral lues, severe headache and loss of orientation. At times, when on the street, he did not know where he was. Tinnitus aurium was practically constant and so severe as to interfere with sleep. He was given twenty injections of mercury salicylate and three injections of salvarsan. Marked improvement followed the injections of mercury, but complete relief of the tinnitus aurium was noticed for the first time after the third salvarsan injection. After the second salvarsan, the patient had severe headache in a region of the head not previously affected and stated that he was blind for five minutes. After the third salvarsan, complete relief of the ringing in the ears was obtained, and the patient stated that he felt better than at any time in the past two years. A week later, ringing in the ears had recurred, and the patient was to be given three more salvarsans.

The second patient was a woman, aged 38 years, who had acquired syphilis ten years ago. At that time she had had six months' treatment with pills and had received no further treatment. A little over a year ago she had tinnitus aurium, followed by complete deafness in the right ear. After two injections of mercury salicylate she noticed a return of the ringing in the right ear.

## DISCUSSION.

DR. WRIGHT cited the case of a patient whose only symptom was loss of hearing. Six months previous to this, he had a small sore on the penis, which

had healed under local treatment. He had received no constitutional treatment. His wife also was infected with syphilis. Under antisyphilitic treatment he recovered entirely from the deafness.

DR. IRVINE called attention to the fact that the auditory apparatus was quite commonly affected in early lues.

DR. HILGER (by invitation) stated that some years ago it was considered dangerous in Vienna to give salvarsan in cases with ear involvement, but later its use was recommended. In one hundred cases of florid syphilis examined in Vienna, bone conduction was lessened in all, even though hearing, as regards ordinary conversation, was not affected.

DERMATITIS VEGETANS DUE TO *B. PYOCYANEUS*. Report of case by  
DR. KLEIN.

The patient, Mrs. F., was a laundress, and while at work had injured her left shin. The disease had started at the point of injury on the left shin, in an area about the size of a dime. This area ulcerated and had gradually spread until it involved the entire leg, from above the knee to the ankle. There was a large granulating, purulent mass resembling the condition sometimes found in varicose ulcer, although there was no evidence of varicose veins. The leucocyte count was normal, the Wassermann reaction was negative, and antiluetic treatment had no effect on the condition. Cultures showed an almost pure culture of *B. pyocyaneus*. Wet bichloride dressings seemed to aggravate the condition, but she improved markedly under 1% lysol solution and immersion in a saline bath, twice a day. She was practically well in about two months.

DISCUSSION.

DR. SWEITZER cited a case of dermatitis vegetans of the sole of the foot that finally cleared under thorough curetting of the lesion.

DERMATITIS EXFOLIATIVA. Presented by DR. WRIGHT.

This patient, a man aged 34 years, showed a red, scaling, universal dermatitis. The disease had started last January, while the patient was engaged in baling hay in South Dakota. Itching had been severe. The patient stated that the man that worked with him last winter, baling hay, acquired the same disease.

# REVIEW

## OF

### DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York,

Assisted by

CLARENCE A. BAER, M.D., Milwaukee.	M. F. LAUTMAN, M.D., Hot Springs.
WILLIAM H. BAUGHMAN, M.D., New York.	OSCAR L. LEVIN, M.D., New York.
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J. S. EISENSTAEDT, M.D., Chicago.	ISADORE ROSEN, M.D., New York.
CHARLES GOOSMANN, M.D., Cincinnati.	MAX SCHEER, M.D., New York.
JAMES F. GRATTAN, M.D., New York.	PHILIP F. SHAFFNER, M.D., Chicago.
W. H. GUY, M.D., Pittsburg.	A. W. STILLIANS, M.D., Chicago.
ROBERT C. JAMIESON, M.D., Detroit.	JOHN H. STOKES, M.D., Chicago.
FREDERICK T. LAU, M.D., New York.	HARVEY P. TOWLE, M.D., Boston.
VICENTE PARDO, M.D., Havana, Cuba.	

# MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(Oct. 5, 1915, lxii, No. 40.)

Abstracted by ARTHUR WILLIAM STILLIANS, M.D.

## THE NUMBER AND FORM OF THE WHITE BLOOD CELLS IN SPOTTED FEVER. M. MATTHES, p. 1345.

In 80% of 35 cases of typhus the author found a leucocytosis of 9000 or over. Only three cases had a count of over 20,000 and these were all very severe cases, two of them fatal. None of the 20% of cases with a leucopenia had a count of less than 4000 during the acute stage. During this stage the differential count showed 80 to 85% of polymorphonuclears and no eosinophiles. Later the percentage of polymorphonuclears decreased and was supplanted by an increase of small mononuclears, 22 to 43%, and eosinophiles up to 9%, without much decrease in the whole number of white cells.

The typical blood picture of typhus is therefore of value in the differential diagnosis from typhoid, in which a leucopenia with a lymphocytosis is characteristic. But cases of typhoid occurring soon after antityphoid vaccination often show a leucocytosis with a normal differential count.

From measles, the 20% of typhus cases with low white count are not to be differentiated by the blood picture.

The author discusses also the differential diagnosis on clinical grounds.

BOECK'S SARCOID WITH INVOLVEMENT OF THE INTERNAL ORGANS.  
E. KUTZNITZKY AND A. BITTORF, p. 1349.

The authors describe a very interesting case of sarcoid in which the superficial lesions resembled lichen planus, but were easily differentiated histologically. There were many subcutaneous tumors on the arms and forearms, also showing the typical groups of epithelioid cells not surrounded by round cells, with occasional giant cells, and usually with no sign of central necrosis.

In addition to the skin lesions, the liver was somewhat enlarged, the spleen was markedly enlarged, especially in its long diameter, hard, smooth and not tender, the X-ray picture of the lungs showed a marked darkening of the whole lung area and hyaline and granular casts and a trace of albumin were found in the urine. All the accessible lymph glands were slightly enlarged. A moderate cyanosis of the face was increased on mild exertion. No skin or subcutaneous lesions were present on the face or scalp. The white blood count ranged from 2200 to 7500, with an eosinophilia of from 4 to 14%.

The authors report similar lung findings of varying degree in all of 6 other cases examined. In 3 of these, enlargement of the spleen was found and in 3 an apparently characteristic disease of the mucous membrane of the nose, pharynx, epiglottis and larynx was present. None of the cases reacted to tuberculin either locally or generally, although the subcutaneous dose was from 1.2 to 6.0 mgs.

It seems to the authors conclusive that the disease is not tuberculosis, for they cannot conceive of a lung involvement so extensive, failing to react to tuberculin and constantly remaining negative as to fever and bacilli in the sputum. The blood count and the prompt reaction to arsenic also speak against tuberculosis. The improvement under arsenic and the enlargement of liver, spleen and lymph glands suggest a relationship to leukemia and pseudo-leukemia.

(*Ibidem*, Oct. 19, 1915, lxii, No. 42.)

TREATMENT OF VENEREAL BUBOES WITH ROENTGEN RAYS. K. KALL,  
p. 1421.

From an experience of a year and a half, in which all cases of bubo have received Roentgen ray treatment, the author recommends the treatment, especially before fluctuation has appeared, or even if it is already beginning. Pain and glandular swelling following a soft ulcer are promptly checked by a single exposure of 10X under an aluminum filter. When softening has begun, it can still be absorbed, but if the abscess has attained any considerable size, it must be drained. The Roentgen treatment, however, shortens the duration of purulent discharge and accelerates closure of the wound. The prompt effect of Roentgen rays in these cases is in line with its action in other forms of lymphoma. The author prefers the Sabouraud-Noiré dosimeter as the handiest for use in the field hospital, and cautions that the testicles must be well protected with lead.

RECENT PROGRESS IN THE PHYSICS OF ROENTGEN RAYS. A. SOMMERFELD, p. 1424.

This is a résumé of recent discoveries of absorbing interest. The proof that Roentgen rays and the gamma rays of radium are really light rays is furnished by success in refracting them and measuring their wave lengths. To express these measurements the micro-micron,  $\mu\mu$ , one thousandth of a micron, is used. The blue rays of sunlight have a wave length of about 400 micro-microns,



the hardest Roentgen rays measure about one ten-thousandth of this, 0.036 micro-micron, and the wave length of the gamma rays is about one fifth of this, 0.0072 micro-micron. The author therefore thinks it not impossible that with the Coolidge or Lilienfeld tubes, Roentgen rays may be produced that are as penetrating as gamma rays.

The measurement of these extremely short wave lengths has been made by means of crystals of various salts, and has demonstrated at the same time the arrangement of the atoms in the crystals. This corresponds exactly with the theory of valences, but does not allow any consideration for the molecular theory, at least so far as crystals are concerned. For instance, each chlorine atom of rock salt is equi-distant from six atoms of sodium, and there is nothing to show that it is more closely bound to any one of these atoms than to the other five. It is therefore probable that in crystals, at least, there is no such unit as the molecule, but that the unit next larger than the atom is the crystal itself. The article explains the methods and findings in detail.

(*Ibidem*, Nov. 23, 1915, lxii, No. 47.)

THERAPEUTIC RESULTS OF EXPOSURE TO THE QUARTZ LAMP. G. STUEMPKE, p. 1604.

The author reports good results with his treatment in cases of prurigo, pruritus and lichen simplex. In chronic eczema he believes that the light causes a resensitization of the tissues, so that they react better to other measures.

ALOPECIA AREATA FOLLOWING GUNSHOT WOUNDS. A. POEHLMANN, p. 1623.

A thirty-seven-year-old soldier was wounded by shrapnel in the left forearm, and for three-quarters of an hour had to travel in the line of fire of the enemies' artillery in order to retire. Four days later he had a severe headache and noticed his hair falling out. Alopecia areata developed and progressed to practically complete baldness of the scalp, only a few small bunches of hair remaining on the temples, seven months after the onset. Several areas in the eyebrows and beard were involved. The author mentions also an earlier case of his, a man who was lost in a storm in the mountains and rescued after almost fatal exposure. Four days later, alopecia areata began, accompanied by severe headache and partial grayness. The involvement of the hair was sharply confined to the right side of the scalp. Only fifteen cases of this kind are previously reported in the literature.

To explain these cases, he cites Kreibich on "late reflexes." The shock is supposed to cause a lasting vaso-constriction in the capillaries of the scalp, upsetting the delicate mechanism of the nutrition of the hair papillæ. He believes that these cases, as well as those occurring in the areas supplied by traumatized nerves, should be classed as alopecia areata neurotica and traumatica, respectively.

(*Ibidem*, Nov. 30, 1915, lxii, No. 48.)

CONCERNING THE CONFUSION OF QUICKSILVER AND SALVARSAN EXANTHEMS. W. WECHSELMANN, p. 1638.

The author warns against the combined treatment with mercury and salvarsan, and against the uncritical designation of every dermatitis during or following mixed treatment, as due to salvarsan. He cites Case four in Bernhard Fischer's article, in which, after a course of combined treatment a measles-like eruption, at first brick red, later violaceous, then vesicular, accompanied by des-

quamation, the fever persisted and the case ended fatally. Salvarsan was blamed, but on chemical examination of the liver, 1100 times as much mercury as salvarsan was found, so that the verdict was against the mercury. He says that the mercurial toxic eruptions need to be better known. He reviews the case reported by Philip, in which, after a course of mercurial inunctions and neo-salvarsan, a papulo-bullous eruption occurred, with marked desquamation of the palms and soles, followed by a thickening of the horny epidermis of these regions, with dryness and loss of elasticity resulting in fissures and brown, wart-like keratoses, especially marked on the thumbs and little fingers. These Philip claims as arsenic keratoses, but Wechselmann disputes this claim, as such a condition is the usual result of desquamation of these parts and is not at all like the tough, elastic keratoses resulting from arsenic. A scarlatiniform eruption, at first brick red, later violaceous, then vesicular, accompanied by high fever and often by oliguria and albuminuria, makes a clear diagnosis of mercury dermatitis. The universal arsenic dermatitides are usually pustular, pemphigus-like or zoster-like eruptions, sometimes causing ulcers. Seldom are they papular or urticarial. The typical arsenical melanosis frequently accompanies them. In at least 60,000 injections of salvarsan he has never encountered an eruption ending with desquamation, vesiculation and lasting fever.

(*Ibidem*, Dec. 7, 1915, lxii, No. 49.)

Abstracted by ARTHUR WILLIAM STILLIANS, M.D.

#### CARBON DIOXIDE SNOW AS A SENSITIZER IN RADIUM THERAPY. E. SOMMER, p. 1676.

The author reports two cases of canceroid of the face in which radium seemed to fail. Carbon dioxide snow was then applied for 45 seconds, under heavy pressure. In spite of a severe reaction the tumor was not destroyed, so that two months after the freezing, radium was again used in the same dose and with the same technique as at first. Three weeks after this, the tumors had disappeared in both cases and they have remained well one and two years, respectively. In a third case, one of hyperkeratosis about and under the thumb nail, which had resisted arsenic paste, Roentgen rays and radium, the same combination of carbon dioxide snow and radium was successful.

#### CONTRIBUTION TO THE LOCAL TREATMENT OF MENINGEAL SYPHILIS. GENNERICH, p. 1696.

The real field for endolumbal treatment is in the meningeal recurrences, cerebrospinal syphilis and incipient meta-lues. It is justifiable to try it also in older cases of meta-lues with good general condition, but too much must not be expected of it. The cause of this strict limitation of the benefit from the treatment lies, not in a change in the spirochætae, but in the changes in the pia mater. On account of the secondary inflammation, its function of protecting the cells and fluids of the brain from the cerebrospinal fluid is prevented and the protective elements of the tissue juices, as well as the mercury and salvarsan that have succeeded in getting into contact with the foci of the disease, are so diluted that their value is lost. Endolumbal treatment is the method of choice; but in the advanced cases it is very difficult to get enough of the drug into contact with the deep foci without overstepping the tolerance of the tissues and damaging nerves instead of healing.

The spinal cord cases are especially sensitive and require only the smallest doses. Depending on the extent of spinal involvement, the dose ranges from

0.25 mg. to 1.0 mg. In tabes with no Romberg sign and still obtainable knee jerk, a dose of 1.0 mg. is allowable. The more prominent the ataxic symptoms are, the more strictly does the author hold to a dose of 0.25 to 0.33 mg. In the histologic meningo-recurrences, he gives not more than 1.5 mg. for fear that the pial protection of the spinal cord may be weakened somewhere. Purely cerebral cases, such as true paralysis, will stand 4.0 to 6.0 mg. doses, but he advises against them because they irritate the intra-spinal structures and prevent frequent repetition of the treatment. He gives these cases 1.0 to 2.0 mg. every two and one half to three weeks, decreasing the dose after the third injection, and giving two or three doses after the spinal fluid is clear and the Wassermann negative in the fluid.

In deep seated tabes he gives 8 to 10 endolumbal injections combined with intravenous treatment, when the patient's general condition is good. Intravenous treatment alone has not been satisfactory, all classes of central nerve lesions having recurred after apparently yielding to treatment. After endolumbal treatment the period of clinical cure has been much longer. He warns that in fresh meningo-recurrences it is necessary to give one or two small intravenous injections to avoid a strong reaction from the endolumbal injection. He is sure that the usual symptomatic salvarsan treatment has increased nervous syphilis extraordinarily. He finds in cases who have received only one injection of salvarsan in the secondary stage, spinal fluid signs of syphilis in 81% of the cases. In those who have received more treatment than this, but yet not enough, he finds positive spinal fluids in 72%. To avoid such damage, he advises only mercury for the secondary stage, in the treatment of soldiers and sailors during the war.

The author describes his technique, and ends by emphasizing the need of examining the spinal fluid in all cases at the close of the general treatment and again a year to a year and half later. In cases that have received insufficient treatment in the early stages, this examination is of the utmost importance.

#### THE USE OF CONCENTRATED SOLUTIONS OF SALVARSANNATRIUM. SEYFFARTH, p. 1707.

Salvarsannatrium in 5% solution in distilled water gives an isotonic solution. After trying this, the author gradually increased the concentration until he now gives 0.45 gram of the drug in only 1.0 cc. distilled water. This has been well borne in all cases in which he has used it.

(*Ibidem*, Dec. 14, 1915, lxii, No. 50.)

#### A CONTRIBUTION TO NEOSALVARSAN THERAPY. W. POWITON, p. 1721.

A very interesting report of a case of multiple neuritis occurring in a man under treatment with mercury for an early lues. The Wassermann reaction in the spinal fluid was negative. Injections of succinimide of mercury were given, but the patient steadily grew worse until neosalvarsan was tried, when he at once showed improvement and cleared up entirely after four doses. After the second of these, 0.3 gm. in 20 cc. of 0.4 salt solution, a severe reaction occurred, with lowering of blood pressure, headache and pains all over the body.

(*Ibidem*, Dec. 21, 1915, lxii, No. 51.)

#### A CASE OF TERTIARY LUES AFTER VACCINATION AGAINST TYPHOID. K. BARDACH, p. 1756.

Following the first injection of typhoid vaccine, there was no general reaction and nothing was noticed at the site of the injection until three days



later, when the skin in this vicinity reddened and lesions appeared which were diagnosed as gummata, three months later. The primary lesion, 20 years previously had not been recognized and no history of secondaries could be obtained. The author thinks it probable that the injection of vaccine was the exciting trauma to stir up the long latent syphilis.

(*Ibidem*, Jan. 18, 1916, lxiii, No. 3.)

A CASE OF HERPES ZOSTER IN THE DISTRIBUTION OF THE CERVICAL PLEXUS AFTER VACCINATION AGAINST TYPHOID. M. BUDDE, p. 103.

Two days after his second injection of the vaccine, the patient, a soldier in good health, began to have pain radiating from the site of the injection in the right subclavicular region, up to the angle of the jaw and the ear. The next day a typical zoster appeared, with the most severe lesions in the distribution of the supraclavicular nerves. From the peculiar involvement of the nerves in this region, the author reasons that the zoster was the result of injection of the vaccine directly into one of the branches of the supraclavicular nerves and ascending along it, to the plexus, thus involving the other nerves.

(*Ibidem*, Jan. 25, 1916, lxiii, No. 4.)

CONCERNING THE CONFUSION OF MERCURY AND SALVARSAN EXANTHEMS. A. NEISSER, p. 122.

The author approves of Wechselsmann's protest against blaming salvarsan indiscriminately for all occurrences that follow its use. He also agrees that it is often impossible to differentiate between an eruption from mercury and one from salvarsan. Salvarsan eruptions are not always typical. He has seen a number of cases with a diffuse scarlatiniform dermatitis after treatment with salvarsan alone, though Wechselsmann describes this as typical of mercurial reaction. On the other hand, he has never seen pustular pemphigus-like eruptions or zoster-like eruptions, sometimes terminating in ulcers, as described by Wechselsmann as occurring after salvarsan.

Neisser describes two forms of salvarsan eruption. The first he calls an arsenic exanthem, beginning a few days after the last of a series of injections with a chill, followed by fever. The eruption appears as small macules, at first discrete, but soon becoming confluent and spreading rapidly until a large part of the body is covered. There is more or less itching, and some infiltration of the skin, and the attack ends by a large-scaled desquamation in one, two or more weeks. In especially severe cases there may be some moisture, but very rarely vesiculation. The palms and soles are involved and may show the inelastic infiltration with fissure formation, as described in Philip's case. These palmar lesions are not arsenical keratoses. He has never seen arsenical keratoses or melanosis from salvarsan. These cases occurred mostly in the earlier years of the salvarsan era, when large doses were given at short intervals, and the suspension of salvarsan in oil was injected intramuscularly and absorbed gradually, allowing the salvarsan to be transformed before absorption.

The other group of eruptions is more indicative of a special sensitiveness of the skin to the drug and consists of papulo-urticarial or erythematous urticarial eruptions, appearing after every or almost every injection, often not severe enough to bother the patient except by the itching, and disappearing spontaneously in a few days, without desquamation. They are closely related to the immediate reaction with œdema of the skin or other parts, and depend on a vasodilator effect. The severe cases of the second type lead also to exfoliative



dermatitis. The author thinks Wechselmann has made a mistake to ascribe these eruptions to mercury. He has seen them always connected with salvarsan, never with mercury.

The question of responsibility for these reactions, however, has little weight against the undoubted advantages of mixed treatment.

#### FREEZING AND UVIOLETT LAMP TREATMENT IN CONNECTION WITH ROENTGEN AND RADIUM EXPOSURES. H. AXMANN, p. 123.

The author agrees with Sommer that previous treatment with carbon dioxide snow increases the sensitiveness to Roentgen rays and radium. He has been using this combination treatment since 1911, for all cases in which a superficial effect was desired, especially in epithelioma, nævus and psoriasis. He further states his belief that by ultraviolet light exposures between the Roentgen or radium exposures he is able to prevent teleangiectases and other injuries to the skin, increasing its resistance in this way, just as it is decreased by the freezing.

#### ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

(October, 1915, No. 11.)

Abstracted by PAUL E. BECHET, M.D.

#### CONTRIBUTION TO THE STUDY OF KRAUROSIS VULVÆ. L. BROcq, p. 578.

Brocq believes that the majority of the cases of atrophic leucoplasia of the vulva, as described by Breisky, are developed upon a vulvar atrophy of the type described by Jayle, Thibierge and Marion, under the term of simple kraurosis. This type of kraurosis may be complicated by teleangiectasia (vascular kraurosis), inflammation of the glandular follicles (inflammatory follicular kraurosis) and leucoplasia, which occasionally undergoes epitheliomatous changes. He calls attention to the possible mistake of designating a pruritus vulvæ with lichenification from prolonged scratching, as kraurosis with leucoplasia; it is not, however, impossible, for a pruritus vulvæ complicated with lichenification, to ultimately develop into kraurosis with leucoplasia. He mentions the frequent association of pruritus and reports two cases of kraurosis with associated lichen planus of the vulva.

#### CONTRIBUTION TO THE STUDY OF THE FACTORS IN PAGOPLEXIA. LONGIN, p. 595.

Longin discusses the various forms and degrees of frost-bite as observed in military life. He mentions the frequency of tetanus as a complication, and advises a prophylactic injection of antitetanic serum in every case of gangrene, or even moderate loss of continuity of the integument. The frost-bites occurred mostly among soldiers physically below par, who had been in the trenches for six days or longer, their feet in mud or water of low temperature, but not to the freezing point. He mentions as an important ætiological factor, oedema of the legs, brought on by prolonged standing and weak heart action, caused by general fatigue and nerve strain. Additional factors causing the oedema are tight shoes, shrunken by the action of the water on the leather, and ill-fitting, spiral puttees. He believes that much of the frost-bites could be prevented by the use of a shoe giving absolute freedom to the foot, and the use of appropriate leggings. The use of the hot air douche and carbonization with superheated air (700 to 750 degrees) in cases of gangrene, have given him good results.

(*Ibidem*, December, 1915, No. 12.)

THE LEPROSY OF THE BIBLE. DUBREUILH AND BARGUES, p. 625.

The authors, in an interesting review of the subject, state their belief that the leprosy of the Old Testament was not true leprosy, but an indeterminable group of dermatoses (psoriasis, vitiligo, etc.) and that the word leprosy was later used to designate moral turpitude. Its confusion with actual leprosy was due to an error in translation by Constatin who used the term to designate elephantiasis.

THE LYMPHOID CELLS AND PLASMA CELLS OF THE SYPHILITIC CHANCRE. NANTA, p. 638.

TRAUMATISM AND SCLERODERMA. THIBIERGE, p. 645.

Thibierge reports in abstract from the literature on the subject, cases of scleroderma with a history of antedating traumatism. He believes that traumatism is only an indeterminate aetiological factor in scleroderma, but it may stimulate into action the pathogenic conditions which bring on the different types of the disease.

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ACTAS DERMO-SIFILOGRAFICAS.

(June and July, 1916, viii, No. 5.)

Abstracted by VICENTE PARDO, M.D.

A CASE OF SYPHILIS OF THE LUNG. SAINZ DE AJA, p. 265.

The author gives a short review of the different manifestations of syphilis of the respiratory system, including tracheo-bronchitis, pleurisy, pneumonia, gum-mata of the lung and tracheocondritis, the last very frequently found in hereditary syphilis. His case, a young man of 26, gives a history of malaria and syphilis. He had a chancre in 1911 and was treated twice by mercury and biniodide. Four years later he complained of cough, expectoration, fever and a general breakdown. His case was diagnosed as tuberculosis and treated accordingly during one year, without success. The Wassermann test was strongly positive. The clinical examination of the patient showed a complete absence of the normal pulmonary murmur on the left side and a deep, dull sound on percussion. The X-ray picture showed a dark shade occupying the left hemithorax. The diagnosis of this case, made by the author, was "diffuse syphilitic pneumonia." The patient is recovering under anti-syphilitic treatment.

GIANT EXTRAGENITAL CHANCRE. AJA AND FORNO, p. 282.

Case report of a luetic chancre on the left temporal region.

CARBUNCLE OF THE NECK CURED BY STAPHYLOCOCCUS VACCINE.  
I. S. COVISA, p. 288.

The author's case, a lady, 53 years old, presented an enormous carbuncle on the back of her neck, dating from fifteen days prior to her entrance into the hospital. General symptoms were present, the fever reaching 38.5°C. at times. There was no sugar in the urine. The vaccine treatment was given a trial in this case and consisted of injecting 250 millions of staphylococcc vaccine as a first dose and successively 500 and 1500 millions. After a few days of treatment, the patient presented a red ulceration which healed up quickly and the recovery was complete after 20 days.

THE TREATMENT OF ALOPECIA AREATA BY THE CRAYON OF CHRYSAROBIN. I. SICILIA, p. 289.

The author advises the employment of a crayon made of wax, colophonium and spermaceti and containing a certain amount of chrysarobin, in those cases of alopecia areata which are particularly rebellious. He has obtained good results in several cases treated by him.

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RUSSKI JOORNAL KOJNIKH E VENERICHESKIKH BOLEZNEI.

(July, Aug., Sept., 1915, xxx, Nos. 7, 8 and 9.)

Abstracted by M. L. RAVITCH, M.D.

CLINICAL ASPECT OF CUTANEOUS LEISHMANIOSES. G. I. MESCHERSKI, p. 3.

While cases of Oriental sore were formerly but seldom recorded by physicians and dermatologists of Russia, now that the true nature and various aspects of this disease have been worked out, such cases are easily recognized and more of them are being recorded. The author gives a description of his five interesting cases, one a sailor, the other four, soldiers. These five patients had been in service in Turkestan and the disease was discovered when they returned to Moscow. The author divides his cases into two groups: (1) papular-nodular form, consisting of two or more closely aggregated papules which grow and may coalesce, and (2) a typical sore, which, when fully developed, is dirty-reddish in color, tender, painful and sluggish.

The first case manifested the symptoms of the first group as typically described in many textbooks. The four other cases were of a mixed type; the lesions varied in size and virulence. In all the cases intracellular Leishman-Donovan bodies were demonstrated. In the first case there was no lymphatic involvement, but in others it was present to a marked degree. The first case yielded readily to treatment, but the others were rather refractory, since the author had to deal not only with *Leishmania tropica*, but also with secondary staphylococcic infection and the resultant metastatic lymphatic involvement.

THE ANATOMY OF LEISHMANIOSES AND CONCOMITANT GANGLIONIC LYMPHANGITIS. Bogrov, p. 10.

The anatomical picture of Oriental sore has been studied by many investigators, yet until the infectious agent was established the interpretation of the pathology was naturally difficult. With the discovery of the cause—*Ovoplasma orientale* (Marzinovski-Bogrov) seu *Helcosoma tropicum* (Wright) seu *Leishmania tropica*—the study of the lesions has been stimulated, but the relationship of the secondary nodules to this disease has not yet been established. Geigenreich believed these nodules to be an important factor, while Rapchevski (1889) thought the band-like lymphangitis the most important factor. Anatomically the disease has been recognized as a granuloma; Bogrov reviews the cases of Russian and foreign investigators and finds that though they may differ on some points, yet in substance they agree that a constant factor is the infiltration of the corium with plasma cells, which is what Bogrov has found in his own cases. The disease is confined to the epidermis and corium, extending down to the subcutaneous tissue; though Elliott reports two cases which evidently began in glandular structure, Bogrov says that Riche found giant cells present quite frequently; Unna looks upon the lesion as a chronic serofibrinous inflammation of the whole cutis, leading to central necrosis, softening and



ulceration; the corium being densely infiltrated with plasma cells, lymphoid and round cells, with an occasional giant cell.

HECTINE IN THE TREATMENT OF ORIENTAL SORE. BOGROV AND GRINCHAR, p. 22.

Since the ætiology of Oriental sore has been established and also its relationship to other forms of Leishmanioses (Kala-azar, Anæmia splenica infantum), the therapy has been more rational. Chemical, thermic and surgical methods were formerly recommended. Among the chemical agents, zinc chloride, lactic acid, caustic potash and potassium permanganate were often applied. The employment of the thermo-cautery, Paquelin cautery, galvano-cautery, hot air, Finsen light, X-ray, radium and carbon dioxide snow have all been recommended. Based on the protozoan character of the infecting agent quinine and methylene blue have been used. Since its introduction, salvarsan has been administered with some success. In France and Russia hectine has been used extensively, particularly since the beginning of the European war, and the authors report that they have had success with it. While some physicians advocate the use of a vaccine, the authors doubt its efficacy, since a pure culture is obtained with difficulty and the immunizing power of such vaccines has not been established.

PEDICULOSIS CAPITIS. SPINDLER, p. 47.

Bogrov quotes Spindler's article on the prevalence of pediculosis capitis in East Landia. Among school children in some parts, he observed as high as 44 to 53.5%. Boys, on account of their shorter hair, were not affected as often or as severely as girls. In Revel's district school, out of 63 girls, 62 were affected.

The pediculi are mostly found on the back of the neck, on the braid. Hyperæmic areas—roseola pediculosi—usually occur soon after infection. The eruption, as well as the swelling of the neighboring glands are due, the author thinks, to toxines or protein products of the pediculi. At times pustules, pemphigoid blisters and moist eczema develop. In a great many cases the hair was matted, producing a mass called by the Russian dermatologists, "Koltoon." In some cases abscesses were found, often causing fever. Some cases were so neglected that the little patient succumbed to secondary infection. The author pleads for a more energetic method of eradicating this horrible scourge so prevalent in the rural districts of Russia.

AN UNUSUAL CASE OF EXTRAGENITAL SYPHILITIC INFECTION. ROSENBERG, p. 62.

Landow quotes Rosenberg's case of extragenital syphilitic infection. Cases of extragenital syphilitic infection are rather frequent and physicians should be more alert to recognize them. Not infrequently they are the cause of wrong diagnosis. Rosenberg's case was in a man, 23 years old, who was bitten on the middle finger of the left hand. He was treated by a male nurse without any success; he then consulted a surgeon who advised an application of Burrow's solution. Later the finger was incised, but still the sore did not heal. The case was referred to the dermatological department. A thorough examination showed that the glands of the left axilla were involved. The Wassermann reaction was 4 plus. Papular syphilides were soon observed with an erythema in the maxillary region. This case reminds the author of similar cases cited in the medical literature, as the panaritium-like chancre of W. Taylor, *le chancre panaris* of Fournier.



## NEW YORK MEDICAL JOURNAL.

(July 22, 1916, civ, No. 4.)

Abstracted by W. H. GUY, M.D.

## SYPHILIS OF THE LARYNX WITH GUMMA OF THE LEFT VOCAL CORD.

Report of a case.

*(Ibidem, July 29, 1916, civ, No. 5.)*

## ANAPHYLACTIC FOOD REACTIONS IN SKIN DISEASES. ALBERT STRICKLER, p. 198.

An experimental study of food anaphylaxis in eczema, urticaria, acne and psoriasis. A 0.1 cc. dose of a saturated solution of a weak alkali extract of various proteids was injected endermically and the positive reactions comprised papule, erythema and tenderness at the point of injection. Other tests were made by placing protein on abraded surfaces with similar papule formation as in the other technique. Cow casein, egg, beef, mutton, pork, fish, oysters, clams, crabs, wheat, oatmeal, rice, barley, tomatoes and strawberries were used. The author concludes that food tests are of value in eczema by exclusion of offending foods, but that in other diseases, results are disappointing.

## EARLY SYPHILIS. OSCAR L. LEVIN, p. 212.

The author emphasizes the fact that a good prognosis may be offered syphilis if the diagnosis is made early. Description is made of the various types of chancre seen clinically. It is urged that the diagnosis be made by clinical signs plus a dark-field examination for spirochætæ, the technique of which is explained. All lesions of the genitalia and all suspicious extragenital lesions should be examined in this way.

*(Ibidem, Aug. 5, 1916, civ, No. 6.)*

## SYPHILIS AND TUBERCULOSIS IN THE SAME LUNG. ROBERT A. KEALTY, p. 252.

Report of a case.

## THE PATHOGENESIS OF PSORIASIS. ABNER H. COOK, p. 255.

A report of ten cases of psoriasis treated with emetine hydrochloride and oral hygiene, in which three promptly recovered; one case refused treatment and was dismissed, one recovered after having a seminal vesiculitis cured, one cleared up after operation for fistula in ano, one following tonsillectomy; two patients were found to have psoriasis but no other disease and were dismissed uncured.

*(Ibidem, Aug. 12, 1916, civ, No. 7.)*

## CONGENITAL SYPHILIS; THE PROGNOSIS AND MODERN TREATMENT, FRED WISE, p. 293.

A review of recent literature, together with personal observations of the author, may be briefly summarized as follows.

A more cheerful prognosis is made possible due to recent discoveries in bacteriology, serology and treatment, together with more accurate knowledge of the principles of infant feeding and the general care of the luetic infant. The mortality is highest during the first year but decreases from month to month. The earlier the beginning of treatment the better the prognosis, so that treatment should be early as well as intensive. Mercury is given by inunction or intra-muscular injection. Salvarsan is administered by injection into the cubital or cranial veins. Treatment comprises definite courses and is controlled by the Wassermann reaction, as in adults.

(*Ibidem*, Aug. 26, 1916, civ, No. 9.)

FROSTBITE IN THE HAND RESEMBLING RAYNAUD'S DISEASE. N. S. YAWGER, p. 406.

Report of a case.

(*Ibidem*, Sept. 9, 1916, civ, No. 11.)

QUARTZ LIGHT IN CUTANEOUS DISEASES. EDWARD PISKO, p. 493.

The author speaks in terms of highest praise of therapy with the Kromayer and the Bach-Nagelschmidt lamps, with particular reference to the latter, which he recommends especially in diseases of the scalp.

A TEST FOR SYPHILIS. GEORGE B. UBEL, p. 503.

The author describes a test applied to a limited number of cases in which it checked closely the Wassermann, being perhaps a little more sensitive. The reaction depends upon the established fact that bacteria react in much the same manner as colloids: that one colloid may be absorbed by another. It is assumed that colloid is normally present in blood serum and absent in cerebrospinal fluid. Addition of a one to one hundred solution of bichloride, to a nonsyphilitic serum, produces precipitation—added to a syphilitic serum, no precipitation occurs because of a normal colloid being absorbed by the syphilitic element. There being no colloid in cerebrospinal fluid, the reading of a result is the opposite to that in the blood serum.

THE RELATION OF DIET TO DISEASES OF THE SKIN. ALBERT STRICKLER, p. 506.

The author's summary:

(1) In psoriasis we are dealing with a disease of disturbed nitrogen metabolism. In this disease there is a marked nitrogen retention; and when the patient is placed on a low protein diet, particularly when the eruption is extensive, the disease is influenced very favorably.

(2) In eczema, in about fifty per cent. of the cases, a correction of diet as shown by the anaphylactic food tests, is productive of good therapeutic results. In fact, these should be made in every case of chronic eczema, because physicians of experience realize the difficulties in treating this group of cases.

(3) In acute urticaria, the anaphylactic food tests are of value from the view point of both prophylaxis and therapeutics, while in chronic urticarias their value is questionable.

(4) In acne vulgaris there is evidence in most cases of an intestinal toxemia, as shown by the complement fixation tests, and food sensitization does not play a rôle in the etiology of this affection.

(*Ibidem*, Sept. 16, 1916, civ, No. 12.)

SECONDARY SYPHILITIC LESIONS OF THE TONGUE. CONSTANT SAISON, p. 547.

The author describes the mucous patch as the most frequent lingual syphilide, located usually on the dorsal surface, tip, or edges of the tongue, less frequently on the under surface. Patches are rounded or oval, opaline or bluish-white in color, slightly elevated and at times forming true vegetating plaques. At times superficial ulcerations are noted. Tongue lesions differ from those of other locations as to elevation, fœtid discharges, etc., due to motility and mechanical cleansing by food, drink, etc.

Deep fissures, with white, punched out borders and an ulcerating or normal fundus, are also noted on the dorsal surface.

The ulcerating form of mucous patch is usually noted at the borders of the tongue, particularly near points of irritation. They are covered by a whitish pellicle at the borders and have a red base that bleeds easily.

The lingual tubercle begins as a papule with a broad indurated base but free of underlying structures. They never exceed 1 cm. in dimensions and secondary ulceration is never serpiginous or phagadænic. The tubercle always leaves a superficial, small, stellate scar which never involves underlying structures.

The cicatrix of a true ulcerating syphilide of the tongue closely resembles that following the tuberculous type, differing only in that it is more extensive.

(*Ibidem*, Sept. 23, 1916, civ, No. 13.)

CONGENITAL SYPHILIS. WALTER JAMES HEIMANN, p. 592.

The author's summary admirably abstracts his article and is quoted verbatim: "Congenital syphilis is syphilis acquired during intrauterine life through the placenta, which, after having become infected, plays the part of the primary lesion. From this point the umbilical vein conveys the spirochætae to the fœtus, the liver being the first organ involved. Thence the spirochætae are rapidly disseminated throughout the fœtus. Here all differences between congenital and acquired syphilis cease to exist. Subject to the month of fœtal infection, the infant presents cutaneous and systemic evidences of the disease in its secondary, latent or tertiary stages, and the tertiary stage may be protracted for years, or tertiary changes late in adolescent or early in adult life may be the first signs of the congenital infection. Remarkable as such facts may appear, they need cause no astonishment, for in acquired syphilis we see frequently enough examples of freedom from secondary manifestations, the first reappearance of activity occurring twenty years or more after the primary lesion, in the form of tertiary changes. These facts serve only to prove the identity of congenital and acquired syphilis.

"In conclusion, one more circumstance must be recorded, and this depends not upon the disease, but upon the age at which the disease is acquired. Congenital syphilis is transmitted to its victim during the most important period of development, namely, before birth, and the struggle to overcome this burden takes place partly before and partly soon after birth. Thus, aside from its actual pathological alterations, the disease may cause all sorts of anomalies of development, physical deformities and dystrophies and mental backwardness, if not actual imbecility, or even insanity. Aside from these considerations, prenatal syphilis and postnatal syphilis are identical."



(*Ibidem*, Sept. 30, 1916, civ, No. 14.)

THE WAKE OF THE WASSERMANN TEST. JAMES CABELL MINOR, p. 651.

The author emphatically states that not all Wassermann positive patients should be apprised of their condition, on account of the deleterious effects upon their general health and happiness as the result of such knowledge.

Two cases in candidates for matrimony are cited, in which the individuals were happy and in robust health when they presented themselves; for this reason the author advised against a Wassermann in spite of the fact that a history of an old infection was present, and condemns as pernicious the practice of acquainting such patients of the result of the Wassermann test in view of the fact that these marriages were prevented and the contracting parties made very unhappy. One other case is quoted of a similar result in an elderly business man who asked for a Wassermann test for his own satisfaction.

(*Ibidem*, Oct. 7, 1916, civ, No. 15.)

ROENTGEN RAY THERAPEUTICS. JUDSON A. QUIMBY AND WILL A. QUIMBY, p. 683.

Two comparatively recent innovations are of great value to the Roentgen therapist; they are the measured dose by use of the platinum barium cyanide pastille and the introduction of the Coolidge tube which gives a more uniform penetration.

A considerable portion of the therapeutic effect of the X-ray is due to definite blood changes; a definite leucocytosis occurs shortly after exposure, that is easily demonstrable. Leucocytosis\* is general or local even when a very small portion of the body is exposed to rays. Locally, leucocytosis is augmented by blood vessel dilatation, due to the action of X-rays on the terminal nerve endings. These facts have led operators to somewhat free exposure of the bodies of patients, maintaining, however, thorough protection of the area immediately surrounding the primary area. Experience with fractional and massive doses, together with administration of massive doses in short or long exposures, has encouraged the use of rays over longer periods of time.

Theoretically, the action of X-rays is due to atomical dissociation, producing changes in cell chemistry.

Application of the X-ray is painless. High voltage currents produce a sensation of warmth, exhilaration, perhaps some rise of blood pressure, while if a low voltage is used, the effects are sedative, with lowering of vascular tone and the patient will often go to sleep.

The advent of the very high voltage tube permits administration of tremendous doses without injury to the skin. The use of various filters also prevents rays of low penetration from affecting the skin surface. Deeper therapeutic effect is thus made possible.

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## MEDICAL RECORD.

(Aug. 26, 1916, xc, No. 9.)

Abstracted by W. H. GUY, M.D.

SEBORRHOEIC DERMATITIS. WILLIAM P. CUNNINGHAM, p. 353.

A discussion of the symptoms and differential diagnosis, together with a short résumé of the treatment.



(*Ibidem*, Sept. 2, 1916, xc, No. 10.)

SOME CLINICAL ASPECTS OF RADIUM THERAPY. WALTER P. CHASE, p. 410.

This paper deals with the results of radium therapy as palliative or curative measures in the treatment of malignancy; when palliative, the influence is four-fold: (1) analgesic, (2) inhibition or arrest of malignancy in varying degrees and periods of time, (3) lessening or destroying offensive odors in ulceration, malignant or non-malignant. (4) as a hæmostatic in uterine hæmorrhage.

Radium is recommended as a routine post-operative procedure in malignancy to lessen the frequency of recurrence. Numerous authorities are quoted who report favorable results from its use.

Preoperative radiation is urged for its decongestive effects, whereby motility is increased and the size and relations of tumors are determined when the surgeon is in doubt of removal, on account of tumefaction and fixation.

"Epithelioma is more readily mastered than most forms of cancer, particularly the basal cell variety. If the ulcer occurs near or after middle life, particularly if it is of the cutaneous variety, and not of too long standing or not consisting of old and well differentiated cells occurring on mucous surfaces, they are more refractory, but with wise management cases are recoverable."

The use of needles containing radium is mentioned as a new and promising method in the treatment of malignancy of the throat, tongue, tonsils, etc. The fact is noted that X-ray cancer is curable by radium.

Intravenous injections of radium salt or emanation in chronic rheumatism, arteriosclerosis with high blood pressure, with or without renal or hepatic complication, neuritis, etc., give favorable results.

Good results are also noted in tuberculous glands and goitre.

Numerous cases are reported.

PELLAGRA: ITS ÆTIOLOGY AND TREATMENT. J. F. YARBROUGH, p. 416.

The author believes the cause of this disease to lie in a protein-free carbohydrate diet, which, when taken into the stomach is converted into "sour mash" of the distillers. This, three times daily, over extended periods of time, so cripples metabolic activity that there is an absorption of this material without the necessary chemical changes.

It is stated that treatment to be successful must combine dietetic and medicinal measures; that is: a carbohydrate-free diet, prescribed together with twenty to thirty drops of dilute nitric acid, well diluted, one hour before meals. The acid is used to change the reaction of the relatively acid pellagrous blood to alkaline. The author claims that diet alone is insufficient and reports several cases to support his contention.

THE WASSERMANN REACTION IN TWO HUNDRED AND FIFTY-ONE TUBERCULOUS DISPENSARY CASES. W. RAY JONES, p. 418.

A report of two hundred and fifty-three Wassermanns taken as routine in patients presenting themselves at a tuberculosis dispensary. Seventy-three were positive. Ages varied from sixteen to seventy. The reaction varied from one plus to three plus. Objective symptoms of lues were absent and histories were negative.

(*Ibidem*, Sept. 9, 1916, xc, No. 11.)

HEREDOSYPHILITIC DENTAL STIGMATA. JOHN BETHUNE STEIN, p. 445.

The first part of this paper comprises a presentation of the embryological origin and development of teeth, particular attention being directed to the time of dentinification. Stigmata are produced only during development, the result of interruption of dentinification. Syphilis so profoundly affects the entire organism and the cells of the dental germs in particular as to produce characteristic changes, and it is about the only disease that could produce these stigmata. Rachitis is rare before the second year; scarlatina, measles, typhoid, etc., are rare during the first year. Depending upon the time of invasion, the resulting dental stigmata are rather characteristic. The first molar, incisor and cuspid teeth of the second dentition most frequently show changes due to heredosyphilis, because these teeth are undergoing dentinification at the time when the syphilitic process is most intense. The stigmata described include Hutchinson's teeth, flattened, sawlike and stunted teeth, together with hypoplastic morsal surfaces, lines, grooves, pits and furrows. A symmetrical hypoplasia of the morsal surfaces of all four first molars is given as a sign of greatest importance in the diagnosis of hereditary syphilis. Delayed dentition, persistence of deciduous teeth, absence of certain teeth, abnormalities of position, etc., are also mentioned as diagnostic in a large proportion of cases.

(*Ibidem*, Oct. 7, 1916, xc, No. 15.)

A REVIEW OF THE HISTORY OF CHEMICAL THERAPY IN CANCER.  
WILLIAM S. STONE, p. 628.

From the latter part of the thirteenth century up to the present moment, many physicians of note as well as charlatans have spoken for or against the use of the so-called "cancer cures," comprising pastes of arsenic, zinc or the alkaline caustics, but, inasmuch as they have been conceived either in ignorance or in hope of personal gain, they have been universally condemned. Many favorable results have been claimed for cancer pastes, some true but others fallacious, because of errors of diagnosis. In closing, the author states that there is sufficient evidence of value in the use of chemical caustics to justify further study.

(*Ibidem*, Oct. 14, 1916, xc, No. 16.)

RECURRENT ACRODERMATOSIS OF WARM COUNTRIES. R. RUIZ-ARNAU, p. 677.

The author presents a clinical picture of pruritis, painful papule and vesicle formation affecting the bases of the toes, the heels and the sides of the feet. Vesicles rupture, leaving crater-like depressions which ooze serum for a time and then form a crust. He believes the condition to develop only under favorable circumstances and upon a pathological basis of a primary lymphæctasia, which, in turn, is due to climatic conditions. The treatment comprises rest in bed and application of mild antiseptic and protective preparations.

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## ORIGINAL COMMUNICATIONS

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### A STUDY OF THE NITROGEN METABOLISM OF TWO CASES OF ECZEMA.\*

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We have stated in a series of communications (Protein Metabolism in Psoriasis, *Jour. Cutan. Dis.*, Nov., 1913; Summary of Research Studies in Psoriasis, *Jour. Amer. Med. Assn.*, 1914, lxiii, pp. 729-33), that the nitrogenous metabolism in psoriasis presents considerable deviation from that of normal individuals. In practically all of the cases which we studied there was evident a marked tendency to store up nitrogen in the body. In severe cases the amount of nitrogen retained was most striking; the elimination of nitrogen in the urine was in certain cases depressed to the lowest level ever recorded either in normal or pathological conditions. Our studies and experiments demonstrated that a low nitrogen diet had, in general, a favorable influence on the course of the eruption, and, per contra, that a high nitrogen diet exerted an unfavorable influence on the cutaneous condition.

The findings in our published investigations of psoriasis have been

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\*From the Dermatological Research Laboratories of the Philadelphia Polyclinic.

corroborated by studies of the metabolism of other psoriasis subjects, which we have more recently carried out. It will serve no useful purpose to publish these in detail as they merely support our previous findings without adding any additional knowledge to the subject.

We have been interested in instituting metabolic studies in cases of eczema and other eruptive diseases characterized by marked exfoliation of the epithelial cells in order to compare the results with our findings in psoriasis. In this communication we desire to present the results of a prolonged metabolic study of two cases of eczema. While our attention was primarily directed to the study of the nitrogen balance, we also devoted attention to the question of the partition of the total nitrogen in the urine, particularly the elimination of uric acid. In carrying out this work, all precautions in the interest of accuracy were taken, the same methods of experimentation being employed as described in one of our previous communications (*Jour. Cutan. Dis.*, Nov., 1913).

#### CASE REPORTS.

CASE 1. P. D.; aged 54; boiler maker helper; nativity, Ireland; was admitted to the Polyclinic Hospital on Jan. 14, 1914.

The patient was a short, heavy set man, weighing 147 pounds. He was quite ignorant and could give no intelligent medical history, either personal or family.

The cutaneous condition from which he was suffering had lasted two months. It began as "chapped hands" while he was engaged in work on the battleship Missouri.

Notes made at the time of admission read as follows: At the present time there is an extensive, almost universal erythemato-squamous eczema. The hands and arms are reddened, scaly, greatly thickened and heavily furrowed. The trunk, neck and scalp are scaly and slightly thickened. The feet and legs are red and covered with profuse scales. There is severe itching which leads to uncontrollable scratching.



FIG. 1. CASE 1.  
Extensive eczema of external origin.





FIG. 2. CASE 1.  
Extensive eczema of external origin.

From January 15th to January 26th, the patient was placed on a diet, which, based on the amount of contained nitrogen and the variety of food stuffs, might be called normal. The daily intake of nitrogen was 10.43 grams or 0.160 grams per kilo of body weight. The calorific value of the food ingested was 1991 calories per day or 32.2 calories per kilo of body weight which is sufficient for a normal individual in a condition of rest. During 12 days of this period, 6.14 grams of nitrogen were found in the urine as a daily average; the nitrogen in the feces was 1.54 grams. When the average total output of nitrogen in the urine and feces, amounting to 7.68 grams, is compared with the daily intake, it can be seen that 2.75 grams of nitrogen were retained in the body daily, or 33.00 grams during the entire period of 12 days of normal feeding.

This retention of nitrogen is interesting to compare with the loss of nitrogen in the scales. The patient was scaling profusely and was losing large amounts of protein in the form of very fine epithelial flakes. It was difficult to collect these scales quantitatively because of their extreme fineness. As much as could be collected, however, in the patient's bed, contained for the entire period 6.05 grams of nitrogen. A larger amount of nitrogen was found in the sweepings of the patient's room, which were carefully collected and analyzed and which showed 28.77 grams of nitrogen, a very large amount. In some previous investigations we demonstrated that the sweepings

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\*By "retention of nitrogen" we understand, according to the terminology of physiological chemistry, the process of accumulation of food nitrogen, without consideration as to whether it is permanently kept in the body or thrown off, as for example in psoriasis, where large amounts of nitrogen are lost as the result of exfoliation of epithelial cells.

of a room occupied by a person not suffering from an exfoliative skin affection contained negligible quantities of nitrogen. From the above computation it is evident that the patient lost 34.82 grams of nitrogen through exfoliation of the epithelial cells. This figure we do not claim to represent the entire amount lost through the scales, but it undoubtedly represents the largest part of the protein lost. The patient lost 34.82 grams of nitrogen in the scales and retained 33.00 grams, thus showing a loss in the final nitrogen balance, of 1.82 grams. Inasmuch as the amount of protein through scaling was probably larger than we were able to demonstrate, we are forced to conclude that on a normal diet the patient could hardly accumulate sufficient nitrogen in the system to cover the loss in the exfoliation of scales. During this period the patient lost considerably in weight.

In the next period of 7 days the patient was placed on a low nitrogen diet with two objects in view: first for the purpose of studying the nitrogenous balance, and second, to learn whether such a régime would exert a favorable influence on the eruption. The nitrogen in the food was on an average 5.63 grams per day; the amount of calories per kilo of body weight was 34.2. The total daily average output of nitrogen in urine and fæces was 6.27, indicating that the patient was in a negative nitrogen balance. During the entire period the patient lost 4.48 grams of nitrogen; the loss of nitrogen through scaling was very great, reaching 22.81 grams. It is evident that on a low protein diet the patient was not able to retain food nitrogen in the body sufficient to make up for the loss occasioned by the extensive process of cell exfoliation. The final balance was 27.29 grams. It is interesting to note that in spite of a considerable loss of body protein, the patient's weight remained practically the same, being 63.5 kilos on the first day of the period and 63.2 kilos on the last day.

During the third period of seven days' duration, the patient was kept again on a low nitrogen diet containing on an average 4.9 grams of nitrogen per day and 29.5 calories per kilo of body weight. The elimination of nitrogen in the urine and fæces was somewhat less than during the previous period, amounting to 5.60 grams as a daily average. It is thus seen that the patient continued to be in a negative nitrogen balance represented by the figures —4.90 for the entire period. The loss of nitrogen in the scales during this time was 19.97 grams; in the aggregate 24.87 grams of body nitrogen were lost, again indicating the inability of the patient to retain nitrogen on a low protein diet. During this period the patient lost in weight; the first

day of the period his weight was 63.8 kilograms and on the last day 59.4 kilograms, a difference of 4.4 kilograms.

A low protein diet was continued during the seven days of the fourth period. The patient obtained 5.16 grams of nitrogen per day and 32.2 calories per kilo of body weight. The elimination of nitrogen was almost the same as in the previous period, being 5.67 grams per day, representing 0.51 grams more than was ingested.

It is further evident that the patient could not maintain a nitrogenous equilibrium on a low protein intake, being utterly unable to set aside any nitrogen to compensate for the loss of protein in the scales. The amount of scales, approximately as large as in the previous period, was collected, but was unfortunately lost through an accident during the analysis. We feel justified to assume that the same amount of nitrogen was lost during this period as in the previous one; the total loss, therefore, for this period was 23.54 grams. The weight of the patient declined from 60.0 kilos to 58.9.

The fifth period was the final period of the low protein feeding and resulted in a further loss of 3.85 grams of nitrogen through renal and faecal excretion and 13.66 grams through exfoliation from the skin. The entire loss was 17.51 grams of nitrogen. The weight of the patient remained, however, unchanged, being 58.9 kilograms on the first day and 58.8 kilograms on the last day of the period.

On the first two days of the sixth period, the patient continued to receive a low nitrogen diet; during the subsequent five days the diet was changed to a normal protein intake; the patient was given from 8 to 9 grams of nitrogen per day. On these days we noticed a retention of nitrogen averaging from 3.62 to 2.67 grams per day; for the entire period, 15.80 grams were retained. The loss of nitrogen in the scales was still considerable, 12.6 grams being dissipated in this manner, making the net gain for the body insignificant, 3.20 grams. While the body gained a few grams of nitrogen, the weight of the patient declined from 59.2 kilograms to 57.9 kilograms. It would appear that the ingestion of a normal amount of protein did cause a retention of nitrogen but barely more than was sufficient to cover the loss of protein through the skin. The deficits of nitrogen which occurred during the previous periods were not compensated for.

The amount of nitrogen given during the seventh period and the character of the food remained the same, being on an average 8.68 grams. The total average output of nitrogen in the urine and faeces was higher than in the previous period, and less nitrogen was there-

fore retained daily; on an average 1.52 grams or a total for 7 days of 10.64 grams.

The loss through the skin was 8.94 grams, showing again that only a small amount of nitrogen was retained to cover the previous loss of body protein. The weight of the patient increased from 57.9 kilograms to 59.5 kilograms.

The average intake of nitrogen remained the same during the eighth period, being 8.43 grams per day; the retention was somewhat similar, being 7.63 grams for the entire period. The loss of nitrogen caused by scaling exceeded that observed in the previous period, being 11.37 grams, thus producing an ultimate negative balance of 3.74 grams.

During the last period of observation the patient received somewhat more nitrogen in the food, 8.93 grams per day. The retention was greater than before, being on an average 1.81 grams per day, or, for the seven days, 12.67 grams. The scaling had considerably diminished and only 5.4 grams of nitrogen were lost. The final balance was 7.27, representing a higher gain of nitrogen than had been before observed on a normal diet. The weight of the patient was stationary during the last two periods.

Reviewing the whole experiment, which lasted for 68 days, we observe that the patient retained a moderate amount of nitrogen on a normal nitrogenous diet, the gain amounting to 79.74 grams during a period of 40 days. On a low nitrogen diet, but sufficient calorific intake, the patient was always in a negative nitrogen balance, losing during 28 days 16.94 grams of nitrogen. The loss of nitrogen in the form of scales was unusually heavy. As far as it was possible to collect and analyze these scales, we estimate that they contained 149.54 grams of nitrogen during the entire period of observation. Deducting the amount of nitrogen retained from that which was lost in the scales, we find that the patient shows a deficit of 86.60 grams of nitrogen, which would represent 542.0 grams of pure protein. The patient lost considerable weight. At the outset of the observation he weighed 66.7 kilos and at the termination, 59.4 kilos, a loss of 7.3 kilos. The loss of weight can be very properly attributed to the loss of body protein.

CASE II. H. P., aged 29; salesman; was born in the State of Pennsylvania. The patient is an intelligent man with an excellent memory, and the history detailed below was largely written by himself.

There is no history of any cutaneous disorders in parents or grand-parents. Mother and father, each 60 years of age, are living and in good health, with



the exception of rheumatism in the mother. Five brothers and two sisters are well and free of any skin trouble.

**PERSONAL HISTORY.** Patient suffered from chronic diarrhœa at age of 2 years. Later had an attack of measles, but was free of further illness until he developed a cutaneous disorder at the age of 15.

The patient is well nourished, weight 146 pounds, and is five feet nine inches in stature. He does not use alcohol in any form, but has been a heavy coffee drinker. He has always had a good appetite.

**PRESENT ILLNESS.** The disease first appeared on both ears about 14 years ago, during the winter months. Both ears would exude a serum for hours, later becoming dry and covered with a yellowish crust and associated with burning. During the months of January, February and March the disease reached the height of its severity and spread downwards on to the neck. The eruption gradually disappeared during the spring and summer months, but reappeared in September, again attacking the ears. The arms and legs, particularly the flexor surfaces of the joints, then became involved, the skin weeping and later exhibiting crusting and fissuring, accompanied by burning. The disease then became more widespread over the extremities and also attacked the trunk; there was marked surface exudation, leading to adhesion of the underclothing to the body. At this time there was very pronounced scaling, the patient being able to gather a quart of scales in his bed each morning. After these attacks the scaling would last from three days to a week. During the first two years after the skin condition became generalized, the patient would have a chill previous to a new attack of the dermatosis and the chilliness would continue throughout the period of weeping. At times the chill would be accompanied by a pronounced feverish feeling. (During the prodromal stage of one of these attacks in the hospital the patient had a chill and a rise of temperature to 104° F.)

The patient states that prior to and during an attack he would feel very thirsty and drink from 10 to 15 glasses of water. In February and March of 1907, the eruption, after a few months' quiescence, again appeared, this time continuing throughout the summer months for the first time.

During this attack the legs became swollen and painful and the patient was obliged to remain off his feet for six weeks. At this time he states he urinated but once a day. He then began taking a medicine containing phenol, glycerine and water, starting with one drop three times a day, and increasing the dose one drop every two days. When he reached 15 drops a day, he states the swelling disappeared from the legs, the pain subsided and the eruption gradually cleared up. He applied a mild ointment to the skin at this time. He remained free of all eruption for five years.

In September, 1912, the eruption again appeared in the bend of the elbows and knees, beginning with itching which led to rubbing. Soon the skin began to ooze, and the eruption spread over the extremities and then over the body and face. This attack was not as severe as some of the previous ones, and the skin would clear up for a month at a time under a mild ointment. But the eruption did not disappear completely and new outbreaks would occur. During one of the recent attacks the hands and feet were the seat of blisters and later, scaling. In January, 1914, the patient received an injection of neosalvarsan, not because of any luetic history, but in the hope that this drug might in some way improve his condition.

In March, 1914, the patient was admitted to the Polyclinic Hospital for observation, study and treatment. On admission, the patient presented a widespread eruption covering the greater part of the body, consisting of a diffuse erythematous inflammation and some thickening of the skin. On various parts of the surface, such as the legs, ears, etc., there was a serous exudation due to the rupture of vesicles. On the legs, some of the vesicles had become pustular and there was a considerable degree of swelling.

The patient remained in the hospital until June 2nd, and while variations

in the eruption occurred during his hospital sojourn, there was vast improvement at the time of his departure. To quote his own words, "My body and arms are clean and white, the skin of the hands soft; there is no scaling, scarcely any irritation, in fact I am better than at any time within the last 20 months."

On admission, the patient was placed on a medium nitrogen diet, containing 11 grams per day. This was continued until April 14th, when a low nitrogen régime (5 grams per day) was inaugurated and continued until the termination of his hospital sojourn. It was evident to physicians, nurses and patient that the most rapid and continuous improvement took place while the patient was on a low nitrogen dietary.

The patient had been on two occasions under treatment in the Philadelphia General Hospital, without experiencing much benefit.

During his stay in the Polyclinic Hospital, indifferent local remedies, such as vaseline, were used, so as not to confuse the interpretation of the results of dietetic treatment.

### METABOLIC STUDIES.

The patient was kept, during the first period of observation, which lasted 19 days, on a normal diet containing on an average 11.38 grams of nitrogen per day and 33.8 calories per kilogram of body weight. The daily amount of nitrogen given to this patient was much larger than that which Number 1 received during the first period, but calculated per kilogram of body weight, the nitrogen intake of this patient was about the same. On this diet the patient excreted in the urine on an average 7.58 grams and in the fæces, 1.55 grams of nitrogen per day. Throughout the entire period the patient was in a positive nitrogenous balance, reaching on an average, 2.25 grams of nitrogen per day, or a total of 42.75 grams. The scaling in this case was so extremely slight that it was impossible to collect and analyze any exfoliative epithelium. The amount of nitrogen lost by the skin was a negligible factor; the gain of nitrogen, therefore, was an actual enrichment to the body in protein. The weight of the patient, however, declined during this period from 70.0 kilograms to 68.7 kilograms.

During the second period of 7 days' duration, the patient was placed on a low nitrogen diet, containing, on an average, 5.19 grams of nitrogen per day and 29.0 calories per kilogram of body weight. This change in the nitrogen intake caused the patient to lose nitrogen during the first 2 days. On the third day, however, the patient was already in a condition of nitrogenous equilibrium. During the subsequent days the patient lost insignificant amounts of nitrogen. Leaving out of consideration the loss of nitrogen during the first two

days, which is commonly observed when the intake is changed to a lower nitrogenous level, the nitrogenous balance of the second period was 0.75 grams, showing that the patient very soon reached a condition of nitrogenous equilibrium.

It is evident, too, that the patient's tissues held firmly the nitrogen gained during the first period: no "sweeping out" of the retained nitrogen occurred during the period of low nitrogen feeding.

During the third period of 10 days the intake of nitrogen was further decreased to 4.71 grams per day, or 0.067 grams per kilogram of body weight. The urinary output correspondingly declined and the patient lost only a negligible amount of nitrogen.

The total loss for 10 days was only 1.10 grams of nitrogen which is almost a condition of nitrogenous equilibrium.

The nitrogen intake during the final period of observation, lasting 10 days, was again reduced to the low level of 3.35 grams of nitrogen per day. The amount of calories, however, was sufficient, representing 47.3 per kilo of body weight. The nitrogen content of the diet was 29 per cent. smaller than the previous period. On this very low level of protein ingested, the patient was no longer able to maintain a nitrogenous equilibrium, losing 0.59 grams per day. Since there was practically no loss of nitrogen as a result of exfoliation of scales, either during this period nor any of the previous periods, the total loss of nitrogen during the low nitrogen feeding, was 12.25 grams. The gain in nitrogen, however, during the first period was 42.75 grams; the final balance, therefore, was +30.50 grams. In spite of a positive nitrogen balance, the patient continuously lost weight, declining from 70.0 kilograms on the first day, to 66.3 kilograms on the last day of observation, representing a loss of 3.7 kilograms.

## SUMMARIZED RESULTS OBTAINED IN THE STUDY OF THE NITROGEN BALANCE.

The analysis of the results obtained in the metabolic study of these two cases of eczema reveals an interesting fact, namely, that two different clinical types of disease, which, in the present imperfect state of our knowledge of eczema, are grouped under this heading, exhibit quite a different picture with respect to their nitrogen metabolism. While both cases exhibit a tendency to retain the nitrogen of the ingested food as a result of, or preliminary to, the exfoliation of scales, they differ

greatly in regard to the extent of nitrogen retention and its relationship to the protein loss in the scales. CASE 1 presents quite a different metabolic picture than that observed in our psoriasis patients, while CASE 2 differs very strikingly from CASE 1 and presents a close analogy with the psoriasis patients.

CASE 1 lost quite as much protein in the scales as did the most severe psoriasis cases which were studied by us and reported upon a year or two ago. In the accompanying table is given an abstract of the metabolic study of a severe case of psoriasis which was studied by us.<sup>o</sup> It is seen from this table, that the patient was kept throughout the entire experiment on a low nitrogen diet, despite which, however, the patient showed a positive nitrogen balance; during each period, no matter how low an amount of nitrogen was given, the patient was able to retain nitrogen. Such an ability to store up nitrogen with facility was likewise demonstrated in many other of our psoriasis cases.

A careful comparison of the metabolism of patient NUMBER 1 with the metabolic findings in our psoriasis patients, indicates that the tendency to retain nitrogen is considerably less pronounced in this case, than in psoriasis. On a low nitrogen diet the patient was not in a position to maintain even a nitrogenous equilibrium, despite the fact that large amounts of nitrogen were steadily being lost in the exfoliated epithelium.<sup>#</sup> Furthermore, on an ordinary nitrogen diet, the patient was not always able to retain sufficient nitrogen to cover wastage of protein lost in the scales. As a result, the patient lost large amounts of body protein. In psoriasis, on the other hand, during and after the outbreak of the eruption, much of the food nitrogen is retained and the patient remains ultimately in a positive nitrogenous balance.

The second case of eczema presents a metabolic picture which is like that observed in psoriasis. While the patient did not scale to any perceptible degree, a considerable amount of nitrogen was retained on an ordinary protein diet; this represented, therefore, a true gain for the body. It was only after the patient was placed on a very low nitrogen intake, that a small loss of nitrogen was observed. In general, the patient exhibited a marked tendency to store nitrogen, being able under favorable conditions of nutrition to accumulate this substance and under unfavorable conditions to at least conserve the acquired amount of extra nitrogen.

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<sup>o</sup>*Jour. Cutan. Dis.*, Nov., 1913, pp. 90-95.

<sup>#</sup>The final balance.



TABLE A—PROTEIN METABOLISM OF PATIENT NO. 1

Period	Date 1914	No. of Days	ANALYSIS OF URINE AND FECES—DAILY AVERAGE					Nitrogen Balance for Entire Period gms.	Nitrogen for Entire Period gms.	Final Nitrogen Balance gms.	Patient's Weight, an Average for the Period Kgs.	Calories per Day	Calories of Body Weight	Food Nitrogen per kilo of body weight gms.
			Nitrogen in Urine gms.	Nitrogen in Feeces gms.	Total Nitrogen Excreted gms.	Nitrogen in Food gms.	Nitrogen Balance gms.							
1.	Jan. 15-26.....	12	6.14	1.54	7.68	10.43	+2.75	+33.00	34.82	-1.82	64.1	1991	31.2	0.163
2.	Jan. 27-Feb. 2....	7	4.55	1.52	6.27	5.63	-0.64	-4.48	22.81	-27.29	63.3	1850	29.3	0.089
3.	Feb. 3-9.....	7	4.24	1.36	5.60	4.90	-0.70	-4.90	19.97	-24.87	61.9	1850	29.5	0.079
4.	Feb. 10-16.....	7	3.97	1.70	5.67	5.16	-0.51	-3.57	19.97*	-23.54	59.5	1850	31.2	0.087
5.	Feb. 17-23.....	7	3.76	1.46	5.22	4.67	-0.55	-3.85	13.66	-17.51	59.1	1750	29.6	0.079
6.	Feb. 24-Mar. 2.....	7	3.96	1.24	5.20	7.46	+2.26	+15.80	12.60	+3.20	58.1	2036	35.0	0.128
7.	Mar. 3-9.....	7	5.72	1.44	7.16	8.68	+1.52	+10.64	8.94	+1.70	58.8	2036	34.6	0.148
8.	Mar. 10-16.....	7	5.74	1.69	7.34	8.43	+1.09	+7.63	11.37	-3.74	59.1	2023	34.3	0.143
9.	Mar. 17-23.....	7	5.85	1.27	7.12	8.93	+1.81	+12.67	5.40	+7.27	59.7	2075	34.7	0.150

\*Assumed value, scales being lost.

TABLE B—PROTEIN METABOLISM OF PATIENT NO. 2

Period	Date 1914	No. of Days	ANALYSIS OF URINE AND FECES—DAILY AVERAGE					Nitrogen Balance for Entire Period gms.	Nitrogen for Entire Period gms.	Final Nitrogen Balance gms.	Patient's Weight, an Average for the Period Kgs.	Calories per Day	Calories of Body Weight	Food Nitrogen per kilo of body weight gms.
			Nitrogen in Urine gms.	Nitrogen in Feeces gms.	Total Nitrogen Excreted gms.	Nitrogen in Food gms.	Nitrogen Balance gms.							
1.	Mar. 26-Apr. 13.....	19	7.58	1.55	9.13	11.38	+2.25	+42.75	none	+42.75	69.9	2340	33.8	0.163
2.	Apr. 14-20.....	7	4.59	1.35	5.94	5.19	-0.75	-5.25	none	-5.25	67.5	1955	29.0	0.077
3.	Apr. 21-30.....	10	3.46	1.36	4.82	4.71	-0.11	-1.10	none	-1.10	67.1	2675	39.8	0.070
4.	May 1-10.....	10	2.68	1.26	3.94	3.35	-0.59	-5.90	none	-5.90	66.4	3140	47.3	0.050

TABLE C.—PATIENT NO. 1

Period	Date, 1914	No of Days	DAILY AVERAGE						PER CENT OF TOTAL URINARY NITROGEN		
			Total Nitrogen	Urea Nitrogen	Ammonia Nitrogen	Uric Acid Nitrogen	creatinine Nitrogen	Rest Nitrogen	Urea Nitrogen	Ammonia Nitrogen	Rest Nitrogen
			gms.	gms.	gms.	gms.	gms.	gms.			
1.	Jan. 17-26.....	10	6.24	4.39	0.209	<b>0.194</b>	0.448	1.00	70.3	3.37	<b>16.1</b>
2.	Jan. 27-Feb. 2.....	7	4.75	2.97	0.224	<b>0.204</b>	0.422	0.93	62.5	4.70	<b>19.6</b>
3.	Feb. 3-5 8-9.....	5	4.50	2.58	0.207	<b>0.211</b>	0.407	1.095	57.5	4.60	<b>24.3</b>
4.	Feb. 10-12 16-16.....	5	4.45	2.85	0.191	<b>0.197</b>	0.385	0.827	64.0	4.30	<b>18.6</b>
5.	Feb. 17-23.....	7	3.76	2.22	0.201	<b>0.183</b>	0.348	0.80	59.2	5.35	<b>21.3</b>
6.	Feb. 24-Mar. 2.....	7	3.96	2.34	0.215	<b>0.160</b>	0.334	0.91	59.2	5.45	<b>22.9</b>
7.	March 3-9.....	7	5.72	3.96	0.331	<b>0.193</b>	0.314	0.89	69.4	5.80	<b>15.5</b>

TABLE D.—PATIENT NO. 2

March 26-April 13.....	19	7.58	5.72	0.414	<b>0.147</b>	0.505	0.794	75.5	5.48	<b>10.45</b>
April 14-20.....	7	4.59	*3.18	—	<b>0.146</b>	0.480	0.784	*63.3	—	<b>17.10</b>

\*Urea and Ammonia

TABLE E.—PROTEIN METABOLISM OF PSORIASIS PATIENT

Period	Date, 1913	Number of Days	Nitrogen in Urine	Nitrogen in Feces	Total N Excreted	Nitrogen in Food	Nitrogen in Balance	Nitrogen in Scales	Patient's Average Weight	Calories per Kg	Calories per Sq Meters of Surface	Urinary N per Kg. of Body Weight	F. od N per Kg. of Body Weight
1	Apr. 23-Apr. 29.....	7	34.62	4.67	39.29	47.90	+ 8.61	4.95	63.1	22.8	738	0.0784	0.1081
2	Apr. 30-May 6.....	7	30.80	7.05	37.85	42.55	+ 4.70	8.23	60.14	19.0	606	0.0726	0.1001
3	May 7-May 13.....	7	25.26	6.40	31.66	49.69	+17.93	11.20	78.82	26.4	835	0.0614	0.1204
4	May 14-May 20.....	7	20.29	14.03	34.32	52.45	+18.13	8.83	58.5	36.5	1151	0.0496	0.1281
5	May 21-May 29.....	9	28.41	12.16	40.57	70.21	+29.64	16.42	78.15	39.4	1241	0.0543	0.1342
6	May 30-June 5.....	7	13.16	13.78	26.94	30.70	+ 3.76	8.75	58.4	32.0	1069	0.0322	0.0752
<b>Total</b> .....		<b>44</b>	<b>152.54</b>	<b>58.09</b>	<b>210.63</b>	<b>293.40</b>	<b>+82.77</b>	<b>58.38</b>					

No relationship was found to exist between the retention or loss of nitrogen and the weight of the patients. Patient NUMBER 1, for instance, lost considerable weight during the first periods, while at the same time a gain of nitrogen occurred; the same patient during certain periods, lost large amounts of body nitrogen without any change in weight. Patient NUMBER 2 retained nitrogen throughout the entire period of observation, yet lost in weight. In our studies of psoriasis we called particular attention to this same disproportion between nitrogen retention and change in body weight.

### CLINICAL DISCUSSION.

CASE 1 was kept on a low nitrogen diet for five weeks without observing any influence upon the course of the eruption or upon the associated itching.

CASE 2, on the other hand, was markedly benefited under a low nitrogen dietary and placed in a condition better than he had been in twenty months.

A hasty consideration of these results might convince one of the discrepant influence of a low nitrogen diet in eczema. But a more careful study of these two cases, from various points of view, leads to some most interesting and suggestive deductions.

In the first place it is obvious to any one who reads the description of the eruption and histories of these patients that these two individuals were suffering from separate and distinct diseases. In the still incomplete state of our knowledge of eczema, we are unquestionably placing in this category a variety of disorders having certain symptoms in common, but which are diverse and distinct in their aetiology and essential nature.

CASE 1 was an ignorant laborer, lacking all self control, who had a dermatosis of two months' duration, which began as chapped hands while working in the cold, and which continued to grow worse under the influence of unrestrained scratching. There was never any vesiculation or serous exudation, but merely redness, scaling and thickening of the skin. We firmly believe that this condition is not a true eczema but a chronic dermatitis due to external irritation. Authorities, to be sure, class such cases as eczema, but we submit that there is more evidence against the inclusion of such an affection in the group of eczema, than there is in favor of it. Dermatologists, however, are

appalled by the difficulties involved in the exclusion of this and many allied forms of acute and chronic dermatitis, difficult to differentiate, and, as a result, they adopt the simple method of employing a group designation.

CASE 2 was a man, 29 years of age, who suffered from outbreaks of an eruptive disorder since the age of two years. For the greater part of his life he has been subject to a skin trouble whose chief characteristics were vesicle formation, surface exudation and itching. The eruption would develop suddenly and on rare occasions, was preceded by chilliness and fever, an unusual phenomenon.

In its essential features this affection is eczema, in its orthodox sense, a boiling over. There can be no doubt that this disease in this patient is of systemic origin. It is obviously not a skin affection of external causation.

So much for a differentiation of the histories and symptomatology of these two cases. Their metabolic study reveals just as marked differences.

CASE 1 was unable to maintain a nitrogen balance on a low nitrogen diet (4 to 5 grams a day). During a period of 40 days he lost 87 grams of nitrogen. Although the large amount of scaling and loss of epithelium suggested a condition similar to that which occurs in psoriasis, his nitrogen metabolism was quite unlike that which occurs in this disease, for psoriatic patients retain nitrogen even on a low nitrogen diet.

CASE 2, on the other hand, retained nitrogen on a low nitrogen dietary and presents a metabolic picture like that of psoriasis patients, although clinically, of course, there was not the slightest resemblance.

*It is a most significant and interesting observation that a prolonged low nitrogen diet exerted no favorable influence at all on CASE 1, who showed no nitrogen retention, but on the contrary, did markedly benefit CASE 2, who gave evidence of a pronounced nitrogen retention.* The improvement was gradual and progressive, quite like that observed in psoriasis patients. We recognize the fact that many dermatologists are skeptical concerning the favorable influence of a low protein diet in psoriasis. They may, however, demonstrate the influence of such a diet by keeping patients in a hospital on a diet containing 4 grams of nitrogen per day. In three weeks or less, the effect upon a psoriasis eruption will be evident.

From the point of view of history, symptomatology, metabolic



picture and response to dietary treatment, the two cases above described are distinct and different.

It may be of interest to add that CASE 1 was completely cured later by the use of an ointment containing oil of cade. CASE 2 had always been, in large part, resistant to external medicaments. No photograph of CASE 2 is presented, because the eruption did not lend itself to photographic reproduction.

#### PARTITION OF THE URINARY NITROGEN.

The nitrogen found in the human urine represents different chemical substances of which the most important are urea, ammonia, uric acid and creatinine. The difference between the total nitrogen and the nitrogen of all these substances combined is usually designated as "rest nitrogen."

The opinion has been expressed by several investigators that there is in eczema, as well as in certain other eruptive disorders, a disturbance in the elimination of urea.<sup>#</sup> Johnston and Schwartz have recently found that the elimination of "rest nitrogen" in eczema and certain other skin diseases, is increased during the days immediately preceding the outbreak of the eruption. We have thought it of interest, therefore, to study, in cases of eczema, the elimination of the important nitrogenous constituents of the urine.

The elimination of urea in normal individuals stands in definite relationship to the elimination of total nitrogen. In a 24 hours' specimen of urine containing about 10 or more grams of nitrogen, there is found about 80 to 90 per cent. of it in the form of urea. If less total nitrogen were eliminated, the percentage of urea would decline; this, indeed, may reach such a low level as 50 per cent. In formulating, therefore, any conclusions as to the elimination of urea, it is essential to carefully consider the amount of total nitrogen eliminated.

Patient NUMBER 1 eliminated, during the first period, on an average, 70.3 per cent. urea, the total nitrogen being 6.24 grams. This value is somewhat lower than normal if compared with 76.4 per cent. urea and 6.16 grams of total nitrogen excreted by a normal individual, who served as a control in our previous studies.<sup>A</sup> The difference,

<sup>#</sup>JOHNSTON AND SCHWARTZ. Studies in the Metabolism of Certain Skin Diseases. *New York Med. Jour.*, Mar. 13 to 20, 1909.

<sup>A</sup>SCHAMBERG, KOLMER, RINGER AND RAIZISS. Protein Metabolism in Psoriasis. *Jour. Cuta. Dis.*, Nov., 1913, p. 68.

however, is too small to permit of any definite conclusions. In the second, third and fourth periods, the patients eliminated, respectively, 62.5 per cent., 57.5 per cent. and 64.0 per cent. The diminution is undoubtedly due to the decline of the total nitrogen output. A further decline in the total nitrogen output during the fifth and sixth periods caused a still smaller elimination of urea, represented by figures 59.2 per cent. The rise in the total nitrogen in the seventh period resulted in a relatively higher elimination of urea, 69.4 per cent.

That the retention of nitrogen in these cases of eczema was not due to renal insufficiency, was further proven by an examination of the patient's blood. It has been recently shown by Folin and Denis<sup>o</sup> that 100 cc. of blood normally contained from 22 to 26 mgs. of so-called "non-protein nitrogen." In cases of renal insufficiency, when the end products of protein catabolism are eliminated incompletely, the non-protein nitrogen of the blood is greatly increased. We have made a number of blood examinations in cases of eczema and psoriasis and in no one case were we able to find any increase in the non-protein nitrogen. It is evident, therefore, that the retention of nitrogen in psoriasis and in eczema is not the result of renal disturbances. On the whole, the elimination of urea in patient NUMBER 1 may be regarded as representing the lower limit of a normal elimination.

The output of ammonia was normal, fluctuating between 3.4 per cent. and 5.8 per cent. The same can be said of creatinine, which was normal during the first period and declined during the subsequent periods. This decrease was due to the creatin and creatinine free diet on which the patient was kept during the entire experiment.<sup>±</sup>

The elimination of "rest nitrogen" in normal individuals represents about 5 to 10 per cent. of the total nitrogen on a normal diet and 10 to 15 per cent. on a low nitrogen diet. Patient NUMBER 1 showed an increased "rest nitrogen" elimination during almost the entire period of observation. On a normal diet he excreted, on an average, as much as 16.1 per cent. Higher figures were found in other periods, except during the seventh, when it declined to 15.4 per cent. There can be no doubt that these figures indicate deviation of the metabolism from the normal. Whether this disturbance in metabol-

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<sup>o</sup>*Jour. Biol. Chem.*, 1913, xiv, p. 33.

<sup>±</sup>This phenomenon was observed by us in certain previous observations. See A. I. Ringer and G. W. Raiziss on "Excretion of Creatinine by Human Individuals on a Prolonged Creatinine Free Diet." *Jour. Biol. Chem.*, 1915, xix, p. 487.

ism can be associated with eczema, it is impossible to say. A large number of cases must be examined before any conclusion can be reached.

Our second case of eczema exhibits a normal urea output, which on a normal diet averaged 75.5 per cent. and on a low nitrogen diet 69.3 per cent. The ammonia which was determined only during the first period, appeared to be normal; namely, 5.5 per cent. The excretion of creatinine was also normal. The elimination of "rest nitrogen" reached, on an average, 10.45 per cent. of the total nitrogen on a normal diet and 17.10 per cent. on a low nitrogen diet; these figures are fairly normal.

In order to test the eliminative power of the kidneys, patient NUMBER I received on two occasions, 20 grams of pure urea, per os, and in both instances the greater part was eliminated in the first 24 hours, and the rest during the second day. Thus it was established that the elimination of nitrogen by the kidneys was not disturbed.

#### URIC ACID METABOLISM.

For many years much attention has been paid to the elimination of uric acid in patients suffering from various diseases of the skin. Many clinicians have expressed the opinion that certain types of eczema were caused by faults in the uric acid metabolism. We therefore deemed it advisable to study the elimination of uric acid in the cases of eczema under consideration. The patients were placed on a strictly purin free diet for a long period of time and the uric acid output was daily determined. Researches on the question of uric acid metabolism indicate that there are two sources of uric acid elimination in the urine. The ingestion of animal food which contains purin bodies gives rise to a considerable elimination of so-called exogenous uric acid. When, however, individuals are kept on milk and vegetable foods containing but small amounts of purin substance, the chief source of uric acid is the body itself. This uric acid is called "endogenous." Normal individuals show a constant daily output of endogenous uric acid, provided they are in a condition of rest. Expressed in terms of nitrogen, the normal endogenous elimination of uric acid is from 100 to 130 milligrams per day.

It was found by us that under a prolonged régime of purin free diet, and under conditions of physical and psychic rest, as for instance

are secured by a hospital sojourn, the amount of endogenous uric acid eliminated was approximately the same in different individuals, seldom exceeding 100 milligrams of nitrogen.<sup>1</sup> The endogenous uric acid in gout is irregular. Periods of low uric acid output, when the acid is retained, are followed by periods of high uric acid elimination, representing a washing out of accumulated urates.

High endogenous uric acid excretion is also observed whenever there is an increased break down of tissue or cell material, as for instance occurs in fever or when leucocytosis is present.

Patient NUMBER 1 showed a high endogenous uric acid excretion throughout the entire experiment. While the daily elimination fluctuated, the averages for different periods were uniformly high; for instance, in the first period we noticed a daily average of 0.194 grams of uric acid nitrogen; in the second period 0.204 grams, in the third period 0.211 grams, in the fourth period 0.197 grams, in the fifth period 0.183 grams, in the sixth period this value decreased to 0.160 grams, again rising to 0.193 grams in the following period. Compared with normal individuals, the amount of uric acid eliminated by patient NUMBER 1 was almost twice as much. The excessive elimination of endogenous uric acid during many weeks does not indicate in any way that this case of eczema was related to gout but rather suggests a process of break down of cellular material. It may have been associated with the inflammatory changes of the skin and the rapid proliferation of epithelial cells and exfoliation of scales.

Patient NUMBER 2 exhibited also an increased elimination of endogenous uric acid but this was not as high as in patient NUMBER 1. During the three periods it was 0.145 grams daily and this declined to the normal figure in the fourth period of observation, at which time it was 0.104 grams.

The diminution may possibly be attributed to the marked improvement in the patient's skin.

It has recently been shown<sup>#</sup> that the blood of gouty individuals contains a considerably larger amount of uric acid than occurs in normal subjects. The examination of the blood of our patients did not reveal any increase of the uric acid content and thus further supported our contention that in the cases of eczema studied by us the disturbance of the uric acid metabolism was not indicative of gout.

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<sup>1</sup> RAIZISS, DUBIN AND RINGER. Studies in Endogenous Uric Acid Metabolism. *Jour. Biol. Chem.*, 1914, xix, p. 473.

<sup>#</sup> FOLIN AND DENIS. *Jour. Biol. Chem.*, 1913, xiv, p. 40.



## CONCLUSIONS.

1. Two cases of generalized inflammatory dermatoses, ordinarily designated by dermatologists as eczema, were studied by us. We feel confident that one was a case of chronic eczematoid dermatitis of external origin, and we believe that such cases should be excluded from the category of eczema. This case differed in its history, ætiology, symptomatology, metabolic picture and response to treatment from the case of eczema of systemic origin.

2. The patient suffering from chronic dermatitis failed to maintain a nitrogen equilibrium on a low nitrogen diet, and did not exhibit a true nitrogen retention at higher levels. He likewise failed to show any improvement whatsoever on a low protein diet.

3. The patient with eczema of systemic origin exhibited a true nitrogen retention, and exhibited marked improvement on a low protein diet.

4. The patient with chronic dermatitis eliminated "rest nitrogen" in distinct excess of normal for a long period of time.

5. The elimination of "rest nitrogen" in the case of eczema did not exceed the maximum normal limits.

6. The elimination of creatinine in both patients was normal.

7. Both patients exhibited an increase in the elimination of endogenous uric acid, the case of chronic dermatitis showing the higher figures. The uric acid content of the blood, however, was normal. The increased uric acid output is not to be interpreted as an indication of gout, but doubtless bears some relation to the leucocytic deposits in the skin with perhaps absorption of some of the products of the same.

## THE HISTOPATHOLOGY OF HYPERIDROSIS CIRCUMSCRIPTA.

BY RICHARD L. SUTTON, M.D., KANSAS CITY, MO.

While the existence of sweat nerves, as demonstrated by the experiments of Goltz<sup>1</sup>, Langley<sup>2</sup> and others, is now generally conceded, the occurrence of abnormal histologic changes in hyper-active coil glands is still a matter of controversy. Virchow<sup>3</sup>, in his researches on the symptomatic hyperidrosis of pulmonary tuberculosis, noted the presence of both hypertrophy and fatty degeneration of the glandular structures. A few years later, Robinson<sup>4</sup>, while investigating the histopathology of hyperidrosis manuum, found no appreciable alteration of the sweat apparatus in the affected areas.

Recently I had opportunity to study an example of hyperidrosis circumscripta in which the symptomatology was so striking in character and the anatomic changes so well marked, that the case report is worthy of record.

## CASE REPORT.

The patient was an Italian laborer, aged 28 years, referred to me by Dr. W. W. Duke, of Kansas City. His general appearance was that of a rugged, powerful man. He claimed, however, that his health had never been good and his history during the past decade was that of a confirmed neurasthenic.

Aside from the diseases of childhood, and one attack of gonorrhœa, he had never experienced a serious illness. There was no record of trauma. Syphilis was denied. The disorder from which relief was sought had been present eight years, and had reached its present stage within a period of a few weeks after the onset. Since then it had persisted with but little change.

The affected area measured about 8 by 18 cm. in extent, and was located in the left sub-scapular region. The sweating was more excessive in cold weather, but an attack could be precipitated at any time by fright, worry, or excitement. The phenomenon was not under the control of the patient's will, as in the case described by Marmé<sup>5</sup>.

Following the administration of pilocarpine, general hyperidrosis occurred, but the glands in the affected region were far more active than those on other parts of the body. On one occasion, during the course of a physical examination, more than 9 cc. of sweat exuded from the affected area within a period of five minutes. The patient was not under the influence of any drug at the time, and the temperature of the room was 60°F.

Neither blood nor urine exhibited abnormal changes. A serum test gave a negative result. There was no reaction to tuberculin. No tenderness could be elicited by pressure along the course of the spine and an X-ray examination failed to reveal any changes or deformities in the bony structures in this region.

For laboratory study, four small pieces of tissue were excised from the affected area and four others from the corresponding normal area in the right sub-scapular region. The material was fixed in formalin, sectioned in a freezing microtome and stained by various methods.

The epidermis was unaffected and the sebaceous glands exhibited no alterations. The connective tissue in the vicinity of the coil glands and ducts stained well and, aside from occasional circumscribed areas of round-celled infiltration, the intermediate structures appeared normal. The cellular exudate was most marked in the immediate vicinity of the coil glands and these structures were greatly increased in size—in many instances the diameter of the coils being almost twice that of the tubules in the normal specimens employed as controls. The blood vessels likewise exhibited hypertrophic changes. The lumen of the enlarged glands was dilated and the epithelia somewhat larger than normal. Numerous mitoses were present. The ducts also were increased in size, although comparatively smaller than the active portion of the appendage. With the exception of the hypertrophy, the typical architecture of the glands was unchanged. There were no signs of fatty degeneration.

The microscopic findings in this case would indicate that in some instances, at least, as Virchow has stated, long continued localized hyperidrosis may result in, or be accompanied by, hypertrophy of the coil glands in the involved areas.



Showing location and extent of affected area on the back. The dark substance is lead pencil dust, which was dusted on the moist surface in order to define it more clearly. Note the two droplets of perspiration.



## PHENOL.

By DOUGLASS W. MONTGOMERY, M.D., SAN FRANCISCO.

Carbolic acid applied locally acts as a caustic, an antiseptic, an analgesic, an antipruritic and a decolorizer of pigmentary discolorations, such as freckles. Its caustic action may sometimes extend to being escharotic, but usually attendant circumstances, such as enclosure under a bandage, must be present in order for it to do so. Carbolic acid when applied over a large surface may, by absorption, cause the constitutional symptoms of phenol poisoning.

## AS A CAUSTIC.

Occasionally I have painted pure carbolic acid on patches of psoriasis and sometimes with good effect. On Feb. 5, 1916, I painted a number of patches in this way on the back of a patient. The painted patch turned white, with a red blush about it, as it usually does. In about a week the patient returned. The application had given rise to a violent reaction in each patch and in one of them there was a deep, steep edged, suppurative lesion with a heavy crust, which I feared might leave a scar, but which fortunately did not. After the reaction subsided the psoriasis reappeared in each patch.

Painting with pure carbolic acid has been recommended in a great number of cutaneous affections, and I have employed it frequently in alopecia areata, lupus erythematosus and psoriasis, but the instance above mentioned was the only one in which it acted as a violent caustic.

As before mentioned, carbolic acid is employed, painted on pure, for the removal of pigmented spots on the skin, such as freckles. I have never used it in this way, but recently I had an interesting experience. A woman called at the office seeking relief for discoloration following this employment of phenol. She had consulted a dermatologist in a distant city, who had touched some freckles on the back of her hands with some liquid he had on his desk. She returned for another treatment and the physician being absent, his associate saw her, and asked what had been done. She informed him by pointing out the bottle containing the fluid employed. He

repeated the process and explained it to her, saying that she might do it herself when necessary. This she did, but forgot to wash off the carbolic acid with alcohol and hence the excessive action and discoloration, which was only inflammatory, that brought her to me.

In this case, while examining the spots with a lens, I made a curious observation. Over each spot treated the epithelium was dead white and densely hyperkeratotic, resembling a fleck of porcelain. It may be that in freckles or other deep seated pigmentary spots this dense white hyperkeratosis hides the subjacent pigment. If so the result would be temporary. As soon as normal keratinization would take place, the light rays would pass through, and the "blemish" would reappear. In any case in which the discoloration is due to seborrhœic keratoses, and therefore in which the pigment is in a great measure in the superficial layers of the epithelium, the amendment would be more permanent. Of course, this would be better treated with trichloroacetic acid.

Some time ago surgeons used pure carbolic acid, followed by washing with alcohol, for disinfecting their hands. For the skin of many people this was too strenuous a procedure, and other antiseptics have been found equally effective and not so detrimental.

On another occasion a Scotch woman called, expressing great delight at seeing me, and saying that in my early days of practice I had befriended her by securing her employment as a nurse. She then told me she had failed to achieve a living in San Francisco and had gone to Los Angeles, where she had been equally unfortunate. She then tried chicken ranching, which also proved a failure. After this she went to New York, where by some means she secured rooms on Fifth Avenue, and put out her shingle as a "Beautifier." From then on the road had been smooth "wi' lots o' munny."

In a burst of confidence she divulged to me her sole remedy, carbolic acid. She painted it on, and then covered the spot with the vitelline membrane of an egg. She did not know anything of the construction of the skin, nor could I find from her what lesions she treated in this way. She only knew that she applied this remedy in this way to "blemishes," and that thereby she was gaining a good living.

Whether absolutely truthful, her story was interesting, but one would imagine that in neglecting to wash off the phenol with alcohol and in applying a closed dressing she would get occasional disagreeable accidents.

At one time strong watery solutions of carbolic acid were employed, injected hypodermically, directly into deep infective processes such as erysipelas. Hydroceles were also treated by throwing liqul phenol into the sack after draining out the serum. The consequent plastic inflammation closed the sack. In a like manner phenol was used for hæmorrhoids.

One of my first cases on beginning practice was a woman, who got an extensive and very painful ulceration of the anal opening and rectum, through being treated for hæmorrhoids with phenol injections by a quack. I have never forgotten the incident, because it was very remunerative at a time when I needed sustenance.

When enclosed in a dressing, gangræne, from carbolic acid is not so infrequent, and because of its insidious course deserves especial mention. As there is no pain, because of the analgesic action of the drug, the patient has no warning. Many cases of complete loss of a finger have occurred from a preparation not at all commonly regarded as being dangerous. This sad accident is said to be especially apt to occur if the phenol is not completely dissolved in the solution and it is to facilitate this solution that it is advised to always add glycerine to the mixture. It is also for this reason that the glycerite of phenol (phenol 20, glycerine 80) has been made official. Besides facilitating the solution it is said to lessen the caustic action on the skin, but will not prevent the production of gangræne or the absorption of the phenol<sup>1</sup>.

Camphor possesses the curious property of combining with phenol and forming a liquid and in this combination the phenol loses its causticity and may be employed with impunity, for instance, in swabbing out the throat.

For obvious reasons this form of gangræne has occurred most frequently following the application of watery solutions. It may occur, however, when the carbolic acid is incorporated in an ointment. For instance, O. F. Schussler and M. A. Stone have reported an instance of gangræne of the finger following the use by a druggist of a five per cent. carbolic acid ointment under a closed dressing.<sup>2</sup>

Ointments of this strength, however, may be employed with impunity if not confined under a dressing, or not spread over too large

<sup>1</sup> WILBERT, MARTIN I. Some Fallacies Regarding Phenol. PUBLIC HEALTH REPORTS, WASHINGTON, D. C., Apr. 28, 1916.

<sup>2</sup> SCHUSSLER, O. F. AND STONE, M. A. Gangræne of Finger Caused by 5% Phenol Ointment. *Jour. Amer. Med. Assn.*, Aug. 19, 1911, p. 628.

a surface. For instance, Sequeira recommends a twenty grain to the ounce ointment to relieve the itching of lichen planus.<sup>3</sup> As in lichen planus, and especially in the very itchy cases, the eruption may be very widespread, the patient should be admonished of the danger of using the ointment too extensively. The warning is all the more necessary because the ointment may relieve the itching, which is frequently acutely tormenting, constituting a pressing temptation to extend the use of any remedy found at all helpful.

Another disagreeable feature of carbolic acid is its odor, particularly obnoxious to some people. This, however, does not prevent the popular use of carbolated vaseline (unguentum phenolis), possibly the most widely used of all household ointments. Although it is only of three per cent. strength, accidents may happen with it, and therefore it is necessary that the physician should keep it in mind.

#### AS AN ANTIPRURITIC.

There is no doubt that phenol is an excellent antipruritic in one-half to two per cent. strength, which may be employed in those eczemas in which itchiness is a distressing symptom. As before indicated, the dressing must not be too occlusive, and it must not be employed over a very extensive surface, especially if the horny protective layers of epithelium are deficient, as in weeping eczema.

When in the treatment of eczema it is desired to employ a solution and at the same time to avoid the use of the monoxybenzol, carbolic acid, the dioxybenzol, resorcin, may be prescribed. It, too, must be used in weak solution and it is not altogether devoid of danger, as it sometimes acts with unexpected severity, and may by absorption cause alarming constitutional symptoms or even death. Neither carbolic acid, however, nor resorcin at all equal liquor carbonis detergens as a soothing antipruritic, especially when the latter is combined with lead water as in the well known Hutchinson's lotion. Here again, the good effect depends to a great extent on the weakness of the solution:

Rx		
	Liq. plumbi subacetatis	15.00
	Liq. carbonis detergentis	75.00
M.		

Sig. A teaspoonful in a pint of hot water as a lotion.

This is an excellent antipruritic, and acts soothingly and kindly

<sup>3</sup> SEQUEIRA, J. H. *Diseases of the Skin*, 1915, p. 463.



on the skin, favoring epithelialization, and I have never seen it act poisonously, either locally or constitutionally. I have had the patients, in rare instances, complain that in this strength it caused "burning." This may usually be overcome by further dilution, using a teaspoonful to a quart instead of to a pint of hot water.

Just as this Hutchinson's lotion is superior to watery solutions of carbolic acid or resorcin in the treatment of eczema, when a lotion is required, so is camphor, especially when combined with carbonate of lead, superior to carbolic acid or resorcin when it is desired to prescribe an ointment. Neither camphor nor its allied substance, menthol, may be prescribed as solutions in eczema because of being insoluble in water. The alcoholic solutions, naturally, cannot be used.

We here touch upon one of the most interesting subjects in the treatment of diseases of the skin, the comparative neglect of camphor. The allied substance, menthol, sometimes called domestic camphor, is much more frequently mentioned, yet it never acts so soothingly or kindly or even antipruritically as Japanese or common camphor.

#### AS AN ANTISEPTIC.

Occasionally in impetigo contagiosa there is a good deal of pruritus which favors autoinfection. Sutton advises the addition of 1 per cent. of carbolic acid to an ammoniated mercury ointment in this contingency.<sup>4</sup> The ointment would read:

Rx		
Phenol		grs. vii
Ung. Hydrarg. ammon.	5	ss
Ung. Zinci ox.	5	1
M.		

I am inclined in such a situation to employ that preparation of cresol called lysol, in two per cent. strength.

Jackson recommended using phenol to abort furuncles, by dipping a toothpick into the liquid and boring it into the suppurative top of the lesion. I never was favorably impressed with the treatment.

#### AS AN ANALGESIC.

A. Rundle Short says that carbolic acid rather increases the sensitiveness to painful stimuli.<sup>5</sup> I rather doubt this. A medical friend

<sup>4</sup> SUTTON, RICHARD L. *Diseases of the Skin*, 1916, p. 274.

<sup>5</sup> SHORT, A. RUNDLE. *The Newer Physiology*, 1915, p. 243.

acquired a chancre of the finger near the nail, and suffered from it all the agony of a felon until he applied a 1 to 20 carbolic dressing. He said he felt as if the serenity of heaven had passed over him and he never grew tired of expressing the sense of relief he experienced.

The clear oily or acicular crystalline substance obtained from coal tar that is called carbolic acid is also called phenyl alcohol or phenol. In its nature it is both an alcohol and an acid. The root *phen* or *phæn*, from the Greek Φαινο, shining, was first used by the French chemist, Laurent, in 1841, as hydrate of phényle and acid phénique, names which he applied to this substance afterward called phenol. The root *phen* did not indicate that the substance was shiny, but referred to the fact that it was a coal tar product, arising from the manufacture of illuminating or "shining" gas.

AN UNUSUAL VARIETY OF VITILIGO  
("LEUCODERMA ACQUISATUM CENTRIFUGUM")

BY J. B. SHELMIRE, M.D., DALLAS.

Vitiligo, or leucoderma circumscriptum, is a comparatively common disorder. Achromia may develop following pressure (Shepherd<sup>1</sup>), burns (Lecat<sup>2</sup>), surgical operations (Alibert<sup>3</sup>), or ulceration due to syphilis (Sutton<sup>4</sup>). As ordinarily encountered, the lesions of vitiligo present no anatomic changes other than absence of pigment.

Under the title of "Leucoderma acquisatum centrifugum," Sutton<sup>5</sup> has described two cases of vitiligo in which the appearance of the leucodermic patches was preceded by the development of minute, circumscribed, brownish maculo-papules, which superficially resembled small naevi, but which were characterized histologically by the presence, throughout the corium, of masses of tissue of endothelial origin. The whitened areas were rounded or oval in outline, and from 5 to 20 cm. in diameter. As a rule, the small, brownish, maculo-papules persisted exactly in the centre of the leucodermic patch.

Recently I have encountered two examples of vitiligo in which the symptomatology was identical with the cases mentioned.

## CASE REPORTS.

CASE 1. Mr. N., aged 20 years, came under observation in October, 1915. His personal and family history were good, except that he had a slight hare-lip. He was vaccinated three years ago. The spot continued to scab and scale for some months. From that time to twelve months ago, nothing unusual was noticed. Then the scar began to lose its color. At about this time he noticed a small white spot above the vaccination mark. This mark is nearly the size of a dime and devoid of pigment. Just above is a smaller depigmented area, round and with a small, central, flat pigmentation. A biopsy was made before the photograph was taken of these two lesions. About ten months ago, he noticed that the hair and skin were becoming white in two small round areas over the right temple, with central brown spots. About eight months ago, he discovered the larger lesion on the back. The spots on the temple are round, the size of a dime and have a central pigmented spot, resembling a mole. On the back, there are eleven spots, oval or round, split-pea to a silver quarter in size. The largest is over the left lumbar region, oval and about one inch in the longest diameter. In the centre is a raised, pigmented papule of a brownish color. In the interscapular region are three round areas with central pigmentations. There are no central spots in the other lesions on the back. There are a few split-pea size lesions on the chest, with no central spots. On the scrotum, and on the dorsal surface of the penis and mucous surface of the prepuce, there are dime-size, rounded lesions with no central spots. There is no increased pigmentation beyond the borders of any of the spots. There are no subjective symptoms. The lesions which have appeared within the past five months have no central pigmentation.

## HISTOLOGIC REPORT BY DR. J. H. BLACK.

"The sections referred to me present the following picture:

"There is considerable thickening of the stratum corneum. The prickly cells are increased and the basal cells show occasional mitotic figures. There is increased pigment production. The papillæ are usually increased markedly

in size, becoming quite wide. There is considerable congestion of the blood vessels, both superficial and deep. There is a moderate amount of perivascular infiltration of round cells. Lymph spaces are prominent. The round cell infiltration of the derma is slight. Deeper than the area of inflammatory reaction, are found large masses of cells which are large, ovoid, showing prominent nuclei, and staining deeply. These are apparently endothelial in type. These cells are found surrounding the vascular spaces as well as generally throughout the derma. They bear no relation to the glandular structures which are apparently normal. There is no resemblance to naevoid tissue in these sections. I have had the pleasure of studying the sections from the cases reported by Dr. Sutton and find similar pictures. Histologically they are identical."

CASE 2. Mr. G., aged 26 years, was referred by Dr. Carlisle, of Dallas, August 8th, 1916. There were four leucodermic spots, round or oval, split-pea to nearly a dime in size, with the central pigmented maculo-papules in three. The smallest lesion was on the right side of the forehead, not quite the size of a split pea with a pin-head sized, pigmented spot. This appeared several years ago. The patient was not aware of the existence of the other lesions. There were three rounded, dime-sized lesions, one over the left scapula, one on the right side of the abdomen and one on the inner surface of the left thigh, opposite the scrotum. The one over the abdomen was without central pigmentation. As in CASE 1, there was no hyperpigmentation beyond the borders of the spots. There were no subjective symptoms.

#### REFERENCES.

- <sup>1</sup> SHEPHERD. *Morrow's System*, New York, 1895, iii, p. 459.
- <sup>2</sup> LECAT. Cited by Hebra, *Diseases of the Skin*, Sydenham Trans., London, 1874, iii, p. 180.
- <sup>3</sup> ALIBERT. Cited by Hebra, *loc cit.*
- <sup>4</sup> SUTTON. *Trans. Dermat. Sec., Amer. Med. Assn.*, 1916.
- <sup>5</sup> SUTTON. *Diseases of the Skin*, St. Louis, 1916, p. 438.



FIG. 1.  
Showing lesions on the back.



FIG. 2.  
Showing lesions on the arm.



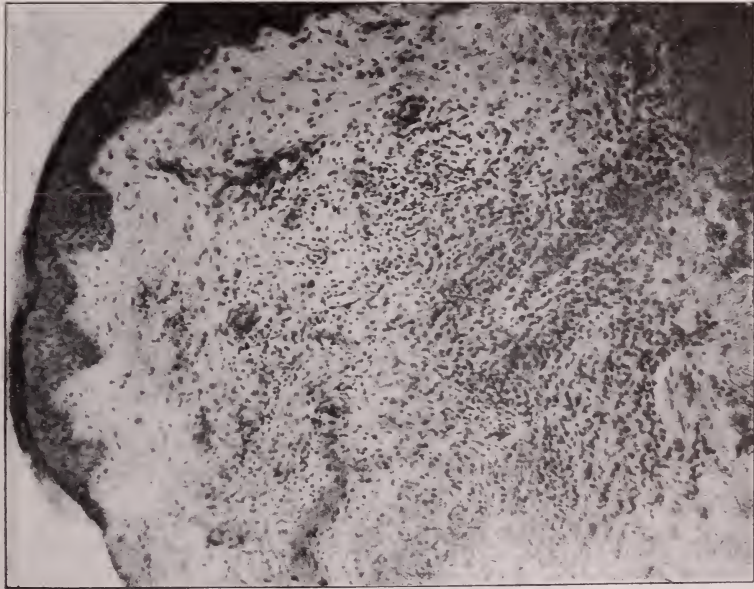


FIG. 3.  
CASE 1. Low power, showing broadening of papillae,  
dilatation of vessels and infiltration.

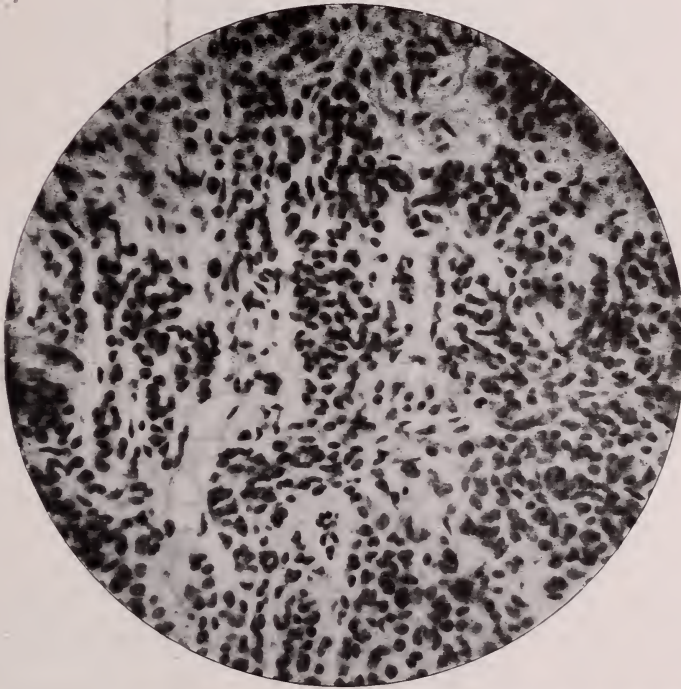


FIG. 4.  
CASE 1. High power, showing character of infiltrating cells.

## LICHEN PLANUS LINEARIS UNILATERALIS.

BY J. F. AUNER, M.D., DES MOINES.

From the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University, New York.

On May 14th, 1916, a rather anæmic, slender, nervous lad of 13 years presented himself for examination in Dr. Fordyce's service at the Vanderbilt Clinic, exhibiting streak-like patches of a peculiar dark reddish or violaceous linear eruption, affecting the skin of the right side of the neck, the right shoulder blade and the right arm. The eruption on the shoulder began at the base of the neck on the right side and extended downward and backward, then curved forward, terminating at the point of the shoulder, describing in all an irregular festoon of some 30 centimetres in length, and varying from  $\frac{1}{4}$  to 2 centimetres in width. Some few centimetres below the shoulder another linear patch began, on a line continuous with the lesions just described and extended downward on the posterior aspect of the arm, to a point near the elbow. On the ulnar part of the forearm and parallel with the nerve for the entire length of the forearm on its outer aspect, there extended a third linear eruption which terminated at the wrist joint. This linear lesion on the forearm was continuous and unbroken and at no point in width exceeding one-half a centimetre. The distribution of the lesions of all these parts was entirely unilateral, and the skin was otherwise clear except for a seborrhœic patch over the right elbow joint and extending upward for a little way on the skin of the back of the arm, and a second seborrhœic patch to the right of the sternum. These patches were covered with small, adherent, greasy, yellow-colored scales. Upon close examination of the linear patches, they were found to be made up of closely aggregated, flat, angular, shiny and violaceous papules. The individual papules were polygonal in shape, with flat, glazed and slightly umbilicated summits. The papules were uniformly of a reddish to a violaceous hue. Some of them were discrete; others coalescing. On the surface of the closely aggregated papules, there could be noted, upon careful inspection, minute whitish points and lines—the typical Wickham's striæ. The patches were superficially situated on a slightly reddened base, freely movable, and sharply circumscribed.

On the occasion of our initial inspection, we were struck by the similarity of the lesions, in appearance, to that of *nævus unius lateris*. The violaceous color of the lesion, however, the fact that the patches were not hyperkeratotic and the history of the sudden eruption of the lesions, all within a period of three or four weeks, made the differential diagnosis a simple matter, even disregarding the subjective symptom of pruritus. The youth's family history was negative insofar as we were able to elicit it, and his personal history could not be obtained further than a record of recurrent tonsillitis and a chronic suppurative otitis media. His cutaneous condition had developed within one month. He was evidently undernourished and under pressure of unfavorable economic conditions and unhygienic environment.

He was referred to the department of internal medicine on account of diseased tonsils, adenoids and persistent discharge from the right ear. There was nothing abnormal upon the mucus membranes anywhere; no leukoplakia of the tongue. The skin on the extremities presented a well-marked mottling—a typical *cutis marmorata*. A biopsy was made from one of the lesions inclusive of a small portion of the adjacent normal skin, hardened in Bouin's solution and alcohol, according to the routine technique at the Vanderbilt Clinic and after cutting and mounting, the sections were stained in the usual manner.

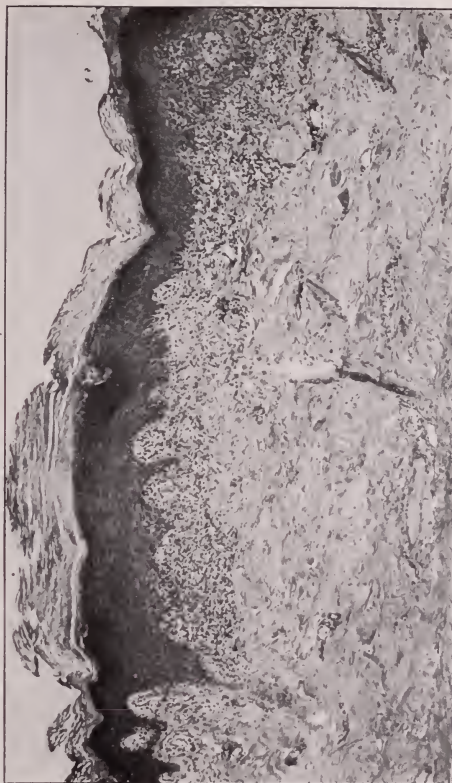


FIG. 2.  
Zeiss—Planar obj. 20 mm., co. oc. 4. Hyperkeratosis; acanthosis; thickening of granular layer; infiltration of papillary body.



FIG. 1.  
Showing linear distribution on shoulder and arm.



## HISTOPATHOLOGY.

The low power picture is that of moderate œdema of the corium, evidenced by dilatation of the blood vessels and lymph spaces and reticulation of the connective tissue elements. A dense, circumscribed cellular infiltration is noted occupying the papillary and subpapillary zone of the corium. The epidermis in places is separated from the corium beneath; in places, there occurs a disorganization of the basal cell layer due to the pressure of the œdema from below. The epidermis as a whole is thickened. The rete pegs in certain areas are smoothed out or effaced and irregular, corresponding to the papillary changes in the corium. Viewed under the high power lens, the corneous layer is seen to be thickened, reticulated and laminated. The stratum lucidum is thickened and the stratum granulosum markedly increased. In some areas the keratohyaline layer is five to seven strata of cells in width; in some places extending downward almost to the rete pegs. Keratohyaline granules are most distinct in the superficial layers. Some acanthosis of the rete mucosum is present. The prickle cells are distorted from pressure and the rete shows some interstitial œdema. Occasional hyaline degeneration is noted. The basal cell layer for the most part is disorganized from pressure œdema and round cell infiltration and in places is separated from the underlying connective tissue by small lacunæ. The papillæ are irregular, corresponding to the changes above described in the rete pegs. Some are broadened, some shortened and some effaced. The fibres throughout the papillæ are widely separated. Throughout the papillary and subpapillary zones the fibres are masked or displaced by a dense infiltration of endothelial cells and lymphocytes. No plasma cells or giant cells are in evidence. The collagen fibres in the subpapillary zone and the deeper portion of the connective tissue are swollen and œdematous. The blood vessels are dilated throughout the corium and present some evidence of accompanying perivascular round cell infiltration. Diagnosis: lichen planus.

Lichen planus was first described in 1869 by Erasmus Wilson.<sup>1</sup> The disorder is of frequent occurrence, though not one of the common dermatoses. The linear variety, however, is of unusual occurrence and was perhaps first mentioned by Dévergie,<sup>2</sup> in 1854, in his "*Maladies de la peau*." He described what is now known to have been lichen planus linearis, as "*lichen en ruban*" and he cites a case with the characteristic distribution, unilateral and parallel with the great sciatic nerve. Fordyce,<sup>3</sup> in 1897, described a form of lichen planus which he characterized as lichen planus hypertrophicus, a special and unique form of lichen occurring infrequently upon the extremities, in which the lesions, becoming chronic, have lost their earlier characteristics and form thickened, elevated patches. At times acuminate or horny conical papules manifest themselves. The patches may become elongated, band-like or irregular and present a reddish brown or purplish color. Galloway,<sup>4</sup> in 1897, gave a graphic report of a neurotic woman, 45 years of age, addicted to alcoholics, who presented what he termed a classical case of lichen planus linearis.

The eruption in this patient consisted of fine, angular, flattened, violaceous papules, distributed discretely or in groups on the left but



tock and arranged almost in a straight line, from the lower border of the gluteus muscle, downward on the inner surface of the thigh and leg, to the inner aspect of the foot. This narrow, tape-like band was  $\frac{1}{2}$  centimetre in width in some areas. The papules were on a slightly reddened base and were indistinguishable from those of lichen planus. The condition was of 8 weeks' duration and had attained the maximum eruption in 4 weeks. The patient complained of severe itching. Whitfield<sup>5</sup> described a girl,  $6\frac{1}{2}$  years of age, with, a well marked parallel, linear eruption of lichen planus on the anterior aspect of the thigh, following the course of the sartorius muscle. He described these singularly anomalous parallel streaks of eruption as but  $\frac{1}{2}$  inch apart for their entire length and noted that they were especially resistant to treatment. Crocker<sup>9</sup> called attention to a woman showing a band-like, linear eruption, lichenoid in character, beginning at the vulva and extending downward and backward to the middle of the calf of the leg, apparently following the course of the small sciatic nerve. He quotes Stephen Mackenzie as showing a case of lichen planus with linear lesions along the course of the left ulnar and internal cutaneous nerves of the upper extremity. Meyer and other experienced observers have claimed an ætiological relationship between the parallel, linear distribution of lichen lesions, to that of the nerve beneath; but it is the conviction of most of our modern dermatologists, that as a matter of fact, there is no significance in a given linear eruption of lichen planus conforming to the course of an underlying nerve or along the so-called Voigt's lines; i.e., the boundaries of the areas included in a cutaneous nerve domain.

#### RÉSUMÉ.

We have based our diagnosis upon the typical character of the individual papules above described, as well as the classical arrangement of the lesion in a narrow fillet, together with the usual distribution of the eruption, limited as it is, to the surface of one of the extremities. Moreover it occurs in an undernourished, neurotic individual who comes to us for relief from his severe itching on the affected areas. The histopathological findings corroborate our clinical diagnosis. The case is somewhat unusual, occurring, as it does, in a youth of 13 years, inasmuch as every other similar case on record, excepting that of Whitfield's, affected individuals between the fourth or fifth decade.

For his kind permission to report this case and for the privileges of the pathological laboratory, I am indebted to Prof. J. A. Fordyce. I desire, also, to thank Dr. Satenstein for his help with the interpretation of the pathological specimens and Dr. MacKee for the excellent photographs.

## REFERENCES.

- <sup>1</sup> WILSON, E. *Jour. Cutan. Med.*, London, 1869, iii, No. 10.
- <sup>2</sup> DÉVERGIE. "Maladies de la peau," 1854, p. 449.
- <sup>3</sup> FORDYCE. *Jour. Cutan. Dis.*, 1897, xv, p. 49.
- <sup>4</sup> GALLOWAY. *Brit. Jour. Dermat.*, 1900, xii, p. 206.
- <sup>5</sup> WHITFIELD. *Brit. Jour. Dermat.*, 1906, xviii, p. 221.
- <sup>6</sup> CROCKER. *Brit. Jour. Dermat.*, 1900, p. 427.

## HYPERTRICHOSIS AND THE X-RAY.\*

BY GEORGE M. MACKEE, M.D., NEW YORK.

To Freund<sup>1</sup> should be given the credit of being the first to remove superfluous hair with the X-ray; he depilated a nævus pilosus by this means. Later he and Schiff<sup>2</sup> reported a series of cases of hypertrichosis in which the result of X-ray treatment was more or less successful. This report was followed by similar ones by Benedikt<sup>3</sup>, Walsh<sup>4</sup>, Ehrmann<sup>5</sup>, Holz knecht<sup>6</sup> and many others. In this country Pusey<sup>7</sup> was the pioneer with Allen<sup>8</sup> and Zeisler as close seconds.

The early workers in this field were naturally enthusiastic over the immediate results obtained, but later, when it was ascertained that it was difficult to produce a complete and permanent loss of hair and especially when it was discovered that wrinkling occurred frequently and teleangiectasia and scarring occasionally, optimism gave way to pessimism.

To-day there is a difference of opinion as to whether one is or is not justified in utilizing the X-ray to remove superfluous hair. Many dermatologists and roentgenologists—Ormsby<sup>9</sup>, Stelwagon<sup>10</sup>, Schultz<sup>11</sup>, etc.—unconditionally condemn the method. Others—Pusey<sup>12</sup>, and Tousey<sup>13</sup>, for instance, are a little more conservative and admit the value of the procedure in selected cases. Pusey states that: "In my experience practically satisfactory results can be gotten in about half of the cases; that is, the growth of hair can be reduced to an amount which is not unsightly by repeated series of

<sup>1</sup> FREUND. *Wien. med. Wchnschr.*, Mar. 6, 1897, xlvii, p. 428.

<sup>2</sup> FREUND AND SCHIFF. *Ibid.*, 1898, xlviii, p. 1058.

<sup>3</sup> BENEDIKT. *Ibid.*, 1901, li, p. 517.

<sup>4</sup> WALSH. *Lancet*, 1901, ii, p. 1191.

<sup>5</sup> EHRMANN. *Wien. med. Wchnschr.*, 1901, li, p. 1466.

<sup>6</sup> HOLZ KNECHT. *Arch. f. Dermat. u. Syph.*, 1900 (Festschrift Kaposi), p. 275.

<sup>7</sup> PUSEY AND CALDWELL. *The Roentgen Rays in Therapeutics and Diagnosis.*

W. B. Saunders Co., 1904, p. 351, with bibliography.

<sup>8</sup> ALLEN. *Radiotherapy, etc.*, Lea Brothers and Co., 1904, p. 240.

<sup>9</sup> ORMSBY. *Diseases of the Skin*, Lea and Febiger, 1915, p. 1052.

<sup>10</sup> STELWAGON. *Diseases of the Skin*, W. B. Saunders Co., 1916, p. 1018.

<sup>11</sup> SCHULTZ. *X-ray Treatment of Skin Diseases*, Rebman Co., p. 139.

<sup>12</sup> PUSEY. *The Principles and Practice of Dermatology*, Appleton and Co., 1911, p. 984.

<sup>13</sup> TOUSEY. *Medical Electricity and the Roentgen Rays*, W. B. Saunders and Co., 1910, p. 931.

exposures which are safe; in the other 50 per cent., however, this cannot be done. The results are so uncertain and the possibilities of harm are so great, that the treatment, in my opinion, should not be undertaken except in extreme cases, or with the full understanding that if the exposures are to be kept within the bounds of safety, improvement is altogether uncertain." Most dermatologists and roentgenologists are in accord with this opinion. On the other hand, there are many more or less enthusiastic advocates of the method in Germany, France, England and the United States. Pfahler<sup>1</sup> has reported numerous cases where he was able to remove all or nearly all the hairs and where there was no disfigurement. He thinks that the method is indicated in selected cases. Geyser<sup>2</sup> gives a résumé of 200 cases of hypertrichosis treated with the X-ray over a period of six years. He admits a small percentage of bad results but insists that it is the elective treatment in cases that are not suitable for the electrolytic method.

In treating hypertrichosis of the face with the X-ray the object sought is the permanent removal of the hair with no subsequent disfigurement resulting directly or indirectly from the X-ray. In ringworm of the scalp we know that a single application consisting of H  $1\frac{1}{4}$  B 10, will effect a more or less complete defluvium without the advent of an erythema. The hair falls out in three weeks and begins to grow again in from one to three months. It might be argued that this same technique could be employed in the treatment of superfluous hair of the face, but here the conditions and requirements are different so that the technique must be modified. In the first place the temporary loss of hair on the scalp is hardly ever complete unless the dose is just short of that required to evoke an erythema. In ringworm it is not necessary to effect a complete defluvium while a complete loss of hair is naturally the aim in hypertrichosis. In the second place the hair of the face requires, for its removal, as much if not more ray than is necessary to depilate the scalp hair; and this dose, while being tolerated by the scalp, cannot be applied to the more susceptible skin of the face without grave danger of an erythema, especially in young females. In other words, while it is occasionally possible to produce a fairly complete defluvium on the face by a single, well-measured dose of H 1 or H  $1\frac{1}{4}$  B. 10, this amount is exceedingly likely to provoke

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<sup>1</sup> PFAHLER. Case reports, *Jour. Cutan. Dis.*, Dec. 1916, p. 849.

<sup>2</sup> GEYSER. A résumé of 200 cases of hypertrichosis treated with the Roentgen Ray, *Jour. Cutan. Dis.*, July, 1915, xxxiii, p. 520.



an erythema; and erythema, in hypertrichosis of the face, must be avoided, if possible, for while it leads to no untoward results in the majority of instances, teleangiectasia may subsequently develop—perhaps not for a year after the treatment. Another serious objection to epilating doses is the difficulty of distributing the quantity equally over irregular surface such as the chin, cheeks, neck, lip, etc. Of course, the surface to be treated may be divided into small areas, but then there will be a hiatus between the areas, the hairs of which must be removed at a later period either by X-ray or electrolysis. It is possible, also, to obtain equal distribution over extensive surfaces by administering the ray in accordance with the laws relative to the square of the distance and the sine of the angle, but such a method is extremely difficult.

If the hair has been removed by a single epilating dose, without an erythema, the hairs begin to grow again in from one to three months. If an erythema occurs it is possible but unlikely that the loss of hair will be permanent. As a rule the temporary loss of hair is not complete and a regrowth occurs in a few months. To avoid the regrowth it is usually necessary to apply a suberythema dose of  $H \frac{3}{4} B_{10}$ , every four to six weeks for six, eight or ten months.

It is possible to effect a defluvium on the face without producing an erythema by repeating the suberythema doses every three or four weeks for several months or by administering fractional doses,  $H \frac{1}{4} B_{10}$ , twice a week or  $H \frac{1}{2} B_{10}$  once a week for the same length of time. With the fractional technique the skin will tolerate  $H 2 B_{10}$  in one month, and before another series of exposures is given a rest of two weeks should be granted. If such treatment is continued for several months a permanent loss of hair will result.

We have considered the question of erythema, now let us discuss the question of atrophy and wrinkling. The glandular appendages of the skin are more susceptible to the influence of the X-ray than is either the derma or the epidermis. In all probability this is because of the retarding influence of the X-ray on cellular activity—biological or physiological. The hair is produced by rapid cell division and growth in the hair bulb and lowermost portion of the follicle. Therefore, if enough ray has been administered to permanently prevent further cell

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\*The doses herein mentioned were measured by the pastille method in connection with the Holzknecht radiometer, and they were estimated at the skin-focal distance. The quality was obtained with the aid of the Benoist radiochromometer, spark gap, etc.

division in the bulb, the hair falls out and falls to grow again. Now, after a time the entire follicle undergoes atrophy from lack of function and this, together with more or less shrinking of the sebaceous glands and sweat apparatus, is likely to allow of more or less wrinkling of the skin. Furthermore, the germinal layer of the epidermis may also feel the effect of the X-ray with a consequent flattening of the rete pegs. In addition there may be more or less atrophy or sclerosis of other anatomical structures, such as the collagen, elastic tissue, muscles etc., all of which may enhance the wrinkling. Furthermore, inasmuch as these effects are late results of the X-ray, the wrinkling may not be noticed until several months after the cessation of treatment.

As we have seen, it is possible to effect a permanent and more or less complete loss of hair without the production of an erythema; therefore, the danger of teleangiectasia can be avoided. It is also possible to obtain the desired result without visible atrophy of the skin in a certain percentage of cases. But so much perseverance, good judgment and skill is required that the method is of little practical value. This is especially true of the face where the skin is very susceptible and where even a slight wrinkling is likely to constitute a serious disfigurement. The outcome of the treatment lies not only in accurate technique and judgment, but in individual differences in susceptibility to the late result of the X-ray.

Many roentgenologists, while refusing to utilize the X-ray in the treatment of hypertrichosis of the face, do not hesitate to apply the method for the purpose of removing hair from various portions of the body, such as the chest, axillæ, arms, hands and legs. In these locations a little atrophy would hardly be noticed and the method would be practical if it were not for the difficulty of applying the ray to the rather extensive and convex surfaces. In applying the treatment to the leg, for instance, it may be necessary to administer the ray to the anterior, posterior and lateral surfaces, each treatment being at right angles to the others. In this way it is possible to obtain a fairly equal distribution of the dose around the circumference of the limb. To treat any one of these surfaces from the knee to the ankle requires two treatments. That is, the anode is first placed over the shin just below the knee and then just above the ankle, the oblique rays from the two treatments overlapping and equalizing the dose in the centre of the limb. It will be seen, then, that not only are very careful mathematical measurement and estimation of the dose required, but that at least six exposures are necessary to cover one entire limb from the

ankle to the knee. When these facts are considered, together with the amount of labor, the expense and the length of time required to obtain the desired result with the least possible amount of skin effect, it will be admitted that the method is not very practical. And it is only occasionally that a patient has the perseverance to complete the treatment.

It has been claimed that better results may be obtained with the filtered than with the unfiltered ray—that larger doses can be applied without danger of an erythema, that the filtered ray affects the deeply seated hair bulbs without so much influence upon the more superficial structures and that, therefore, the method is quicker and safer. This is certainly true to a degree. The rays from every tube are heterogeneous and a thin filter (1 mm. aluminium) will prevent the passage of rays that exert the most marked effect on the epidermis and papillary and subpapillary layers of the derma, leaving the more penetrating rays to act upon the deeper structures. Nevertheless, even the very penetrating rays are capable of provoking an erythema or producing visible atrophy of the skin without the advent of an erythema if the total dosage is sufficient. Furthermore, even with the filtered ray, it is necessary to destroy the hair follicles if one desires to prevent the hair from growing and as already mentioned, this atrophy of the hair follicles, together with the possible shrinkage of the sebaceous glands and other deep structures, may produce a visible wrinkling of the skin.

But the mere fact that useless and injurious rays can be eliminated obviously makes the use of a filter decidedly advisable. It would seem that 1 mm. of aluminium should answer the purpose, although 2 and 3 mm. of aluminium, together with 1 mm. of glass or a thick piece of wet sole leather, have been advised. When a filter is employed the dose (quantity) can be increased. On the face the suberythema dose with 1 mm. of aluminium will be H. 1 instead of H.  $\frac{3}{4}$  and with 3 mm. of aluminium it will be H.  $1\frac{1}{2}$ ; the quality should be at least B. 10.

Coarse hairs are destroyed much more readily than are the very fine, white, or lanugo-like hairs. The author has seen a fairly heavy growth of down, with an occasional coarse hair, in skin that showed distinct X-ray atrophy. The explanation for the more marked influence on the coarse black hairs is that in such hairs there is a more rapid growth—in other words, marked cellular activity, and the action of the X-ray on cells that are dividing rapidly or that are very

active physiologically is more marked than upon the comparatively inactive cells.

The medico-legal aspect of the X-ray treatment of hypertrichosis, especially of the face, is of the utmost importance and should be carefully considered. Malpractice suits based upon injury by the X-ray in the treatment of hypertrichosis have been relatively frequent in the past and in the majority of instances the verdict has been in favor of the defendant. The opinion of the court and that of the jury are likely to be quite at variance. The court's charge is usually about as follows: The court emphasizes and reiterates the chief facts brought out by the trial. He then tells the jury that all that is legally required of the defendant is that he be a roentgenologist of good standing, that he possess average roentgenological skill and be capable of using ordinary or average judgment. Furthermore, the burden of proving the absence of these attributes rests with the plaintiff. The law allows considerable latitude for errors of judgment and very little for errors of technique or lack of skill. It recognizes the possibility of injury and also the difference of opinion among the experts. The jury must decide if the plaintiff was able to show that the X-ray should not have been used in the individual case. It must also determine whether the injury was the result of carelessness on the part of the physician or due to causes beyond his control—such as idiosyncrasy, contributory negligence, etc. If the jury decides these facts in favor of the plaintiff it is instructed to next consider the question of damages to which the plaintiff is entitled. It must consider the amount of physical pain suffered, the mental anguish endured, time lost from business, etc. In considering the cosmetic disfigurement the jurors are instructed to compare it with the original defect. The court warns against the effects of sympathy for either side and charges that promises made by the physician must not be considered, as that would fall under the heading of breach of contract, for which a separate trial would be necessary.

The above is an abstract of a recent charge in a case of scarring and atrophy, with some teleangiectasia, of the face, resulting from a second degree radiodermatitis subsequent to the X-ray treatment for hypertrichosis several years ago. It will be seen that the charge is very fair and places the burden of proof upon the plaintiff.

While the court is able to interpret every point legally and deduce a strictly legal conclusion, the jury is likely to be guided, partly at



least, by sympathy. In the above instance, in spite of the favorable charge, the fact that the physician was of very high standing and the claim was for \$10,000.00 damages, the verdict was \$6,500.00 against the defendant. This verdict, however, was set aside by the court.

In a trial of this kind certain important questions are argued, as, for instance, is the X-ray treatment of hypertrichosis of the face ever justified and was the technique employed in accord with that advocated by leading roentgenologists?

In discussing the second question it will suffice to say that if such treatment is to be given at all it should be administered in accordance with a technique that is recognized by the experts of the period, and administered by a roentgenologist of proved ability.

The first question must be considered more carefully. We have seen that the majority of dermatologists and roentgenologists oppose the method while others favor it in selected instances. It may be admitted that by carefully measuring the dose and employing extreme care, a second degree radiodermatitis and even an erythema, with subsequent scarring and teleangiectasia can be avoided. Wrinkling of the skin also may be avoided but it is very likely to occur. It may be slight and not constitute as great a cosmetic defect as was the hypertrichosis, or it may be considerable and very disfiguring. It must be remembered that an unexpected erythema may occur due to errors in technique, the unadvised application of irritants and, finally, the possibility, if not probability, of an idiosyncrasy.

While admitting the possibility of obtaining a perfect result, the above points, together with the facts that the loss of hair is likely to be incomplete, and that we are dealing with a cosmetic defect rather than a more or less serious disease, leads the author to advise against this method in hypertrichosis excepting in very unusual cases.

There are individuals who have a marked and extensive growth of hair on the face and who are, perhaps, almost insane through worry. These excitable, neurotic patients express their willingness to risk the danger of X-ray treatment and the physician is naturally tempted to apply it. In such instances it is preferable to calm and dissuade the patient by carefully explaining the tediousness, the length of time, the expense, the uncertainty and the dangers of the method. Even if the individual seems to appreciate all this and yet is willing to undertake the treatment, the physician should still hesitate because even a signed agreement in which the patient desires to assume all responsibility, will not legally prevent the institution of a suit

for malpractice. Proof of such declaration on the part of the physician will, however, favorably influence the verdict providing the main requirements of the law are satisfied, namely, average skill, judgment, knowledge and ability as compared with the average roentgenologist of the year and locality.

At a recent meeting of the Manhattan Dermatological Society (January, 1917) Geyser presented a patient who had threatened to commit suicide if something were not done to relieve her of a very disfiguring hypertrichosis. There was so much hair and it was so fine that it was impractical to remove it by means of electrolysis. In discussing the case Geyser made the very reasonable statement to the effect that in cases where electrolysis was impractical and where the patient seriously considered suicide or showed signs of incipient insanity, it was far preferable to risk X-ray sequelæ than to allow the patient to commit suicide or to become insane. In this respect the writer is inclined to agree with Geyser, but he would not treat such a case without a consultation with a neurologist or with another dermatologist and with the patient's immediate family.

While radium will effect a depilation, the same as will the X-ray, it is seldom employed for this purpose because it would be most suitable for small areas and such cases would naturally be treated by means of electrolysis. Recently, however, Heidingsfeld (*Lancet Clinic*, 1916, CXVI, p. 305) and others, have advocated the use of radium in hypertrichosis. Burnam, speaking for Kelly (*Ibidem*) even states that radium may be used with perfect safety in these cases. While it is true that there is less uncertainty regarding accurate dosage, radium effects a defluvium in exactly the same manner as does the X-ray, so that the danger of complications and sequelæ is about the same.

## SOCIETY TRANSACTIONS

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, October 24th, 1916.

JAMES C. JOHNSTON, M.D., *President*.

## XERODERMA PIGMENTOSUM. Presented by DR. POTTER.

The patient, Madeline P., 5 years of age, was born in the United States, of Italian parents. The family history was negative. The child had one sister, thirteen months old, who was perfectly well. The patient was normal at birth. During her second summer, she was frequently taken to Coney Island for the air and was placed on the beach. At the end of the summer, when the child was a year and a half old, freckles appeared on the arms and legs. The parents thought nothing of this, but noticed that each year the freckles became more numerous. Otherwise the child was well. Six months ago the child's eyes became sore and a few warty-looking growths appeared on the face.

The patient was first seen by the speaker a week ago and at that time the skin of the entire body was harsh and dry; the arms, legs and face were covered with freckle-like spots. The child had a mild ectropion and suffered from photophobia. On the face there were several warty excrescences, which the parents stated started as warts and gradually grew larger.

VERRUCA ACUMINATA OF THE MUCOUS MEMBRANE OF THE MOUTH.  
Presented by DR. TRIMBLE.

The patient was a little girl, 6 years old. Two months ago the parents noticed a few seed-like lesions on the inner side of the lower lip, which were followed by the appearance of others on the mucous membrane of the upper lip and gums. These became elevated until they assumed a verrucous aspect. When presented, the whole buccal region was covered profusely with lesions ranging in size from a pin head to that of a small match head. There were also several on the tongue.

## XANTHOMA AND XANTHELASMA. Presented by DR. HOWARD FOX.

The patient, M. S., was a man, 32 years of age, born in the United States, engaged in business. A sister had suffered from xanthelasma. The eruption had first appeared three years ago. He presented lesions of xanthelasma on the upper and lower lids of both eyes, consisting of half a dozen horizontal, slightly elevated, soft flat plaques of characteristic yellow color. He complained of itching of the eyelids, though there was no evidence of scratching.

A few typical lesions of xanthoma tuberosum were present upon the right elbow and knee, left buttock and leg. The lesion upon the elbow consisted of a firm, semi-globular mass, the size of a hazel nut and of reddish color. The other lesions were nodules, less elevated, and showed the typical yellowish color of the disease. The patient had suffered from "stomach trouble" for years. The urine contained no sugar.

## DISCUSSION.

DR. MACKEE said that Drs. Winfield and Potter had had a case of xanthoma tuberosum in which there were lesions on the eyelids resembling xanthelasma. He himself had obtained some tissue from a lesion taken from the lower lid and histologically it was indistinguishable from the ordinary type of xanthoma.

DR. HEIMANN emphasized what Dr. MacKee had said,—i. e., that xanthoma tuberosum and xanthelasma were but different pathological expressions of the same pathogenic process, the formation of tuberous lesions due to cholesterol deposits in the cutis on the one hand, acting as foreign bodies, and as xanthelasma lesions on the other, because of a similar disturbance in the orbicularis palpebrarum. There was probably no essential difference in the two processes, save for morphological disturbances due to the anatomical differences of the tissues affected.

DR. GEORGE H. FOX could see no difference in the conditions occurring on the body and on the eyelids. In his opinion they were undoubtedly the same.

DR. FORDYCE agreed with Dr. Fox that the conditions were the same on the eyelid and on the body. Before we assumed that two different pathological conditions were represented by eyelid xanthelasma and xanthoma tuberosum, we should review the work of Dr. Pollitzer and endeavor to confirm his findings.

DR. HOWARD FOX promised to have biopsies made and report on the case later.

CASE FOR DIAGNOSIS (SARCOID OR MYCOSIS FUNGOIDES?). Presented by DR. HOWARD FOX.

The patient, Dr. W., was a medical missionary, 54 years of age, born in the United States. He had been in Arabia for twenty-one years previously to eighteen months ago, when he returned to this country. His parents had died of old age. He had had four brothers and two sisters, all of whom died shortly after birth. Two sisters were living. The patient was married and had been the father of six children, two of whom had died, one a few days after birth and one of kidney disease.

The eruption appeared suddenly and without apparent cause five months ago, and according to the patient's statement reached its maximum development in three or four days. Since then it had practically remained stationary. With the exception of slight itching at times, the patient complained of no subjective symptoms. The eruption consisted of circumscribed bluish red, elevated, firm patches upon the face, trunk and extremities. There was at times a slight branny desquamation, though the patches were mostly entirely smooth. The sensations of touch and pain were normal. There were in all, twenty more or less distinct patches on the face, neck, trunk, extremities and foreskin. They were round or oval in shape, varied in elevations from an eighth to a quarter of an inch. The largest diameter of the individual patches varied from one half to three inches. On the face there were five more or less distinct areas, situated on the right temporal region and upper part of the right cheek, upon the nose, interciliary region and left cheek. Of the remaining patches, two were situated on the left side of the neck, two upon the right arm, one upon the right buttock, two upon the abdomen, one upon the cheek, one upon the right and one upon the left thigh.

In the course of three months he had received, upon each lesion, fractional doses of X-ray, varying from  $\frac{1}{4}$  to  $\frac{1}{2}$  H units. The lesions of the face and upper extremities had each received a total of  $2\frac{1}{4}$  H. units, and those on the trunk  $3\frac{1}{4}$  H. units. There was some improvement after treatment, the lesions being somewhat flatter. The improvement was, however, by no means what would have been expected in a case of mycosis fungoides.



## HISTOLOGICAL DESCRIPTION.

Dr. Walter J. Heimann kindly reported as follows:

"The picture seen in toto is that of skin in which the epidermis seems unchanged and the papillary body and deeper strata of the corium are sites of a distinct infiltration. The latter is of two types, a diffuse and focal. The diffuse area is the higher, and includes the papillary body and upper third of the corium. The focal is below this and is composed of numerous, almost circular, islands, resembling tuberculosis in their contour and general aspect. It is impossible to state whether the infiltration is perivascular or not, since it is so extensive, but many vessels are seen in the midst of the infiltrated spots. In the localities not included in the infiltration, the collagen is normal and takes the eosin stain well.

High power, Zeiss Occ. 4, Obj. D.D. Stain Hæmatoxylin=eosin. Save for inconsiderable œdema, the epidermis is normal. The diffuse higher infiltration looks like granulation tissue but on close study is found to be more than this. It consists of various cells having no ordered arrangements with reference to one another,— plasma cells, lymphocytes, epithelioid cells, fibroblasts, old connective tissue cells and giant cells. These are not in definite relation to vessels but the latter are numerous, dilated, engorged and lined with swollen intima. The lymphatics are also dilated. In addition to this, numerous signs of cytonecrosis are present, as evidenced by cell detritus, chiefly nuclear, the staining of which is deep. The focal areas have the usual systematized architecture of tubercles. The centres consist of lymphocytes and giant cells, surrounded by epithelioid cells with a wall of lymphocytes, fibroblasts and fixed connective tissue cells about. A few plasma cells are to be seen and some cell detritus. The vessels are not only as above, but their walls are slightly thickened and a few are thrombosed. There are no mitotic figures and no eosinophiles.

With the Van Giesen connective tissue dye, the collagen is found normal in contour, but rich in nuclei and here and there strands of infiltrating lymphocytes are to be seen. The Weigert elastica stain shows an absorption of this substance within the infiltration, but a preservation thereof, outside.

There are no lepra cells or bacilli, nor are there numerous eosinophiles nor much kariokinesis, wherefore lepra and mycosis may be excluded. The vascular changes are not sufficient to favor the diagnosis of syphilis nor does the general appearance of the section. Thus, by exclusion, tuberculosis remains, and the absence of tubercle bacilli eliminates scrofuloderma; this fact and the normal epidermis exclude tuberculosis verrucosa cutis; while the normal epidermis and lack of central necrosis in the infiltration rule out lupus vulgaris. Sarcoid of Boeck is the only remaining possibility."

Dr. D. S. D. Jessup kindly reported as follows:

"The patient, Dr. W., was referred to us at the Laboratory of the N. Y. Skin and Cancer Hospital by Drs. Bulkley and Bechet for examination of lesions of the face, arm and trunk. The Wassermann was negative and smears from the nasal secretion did not show any acid fast bacilli. The first tissue removed was insufficient in amount for thorough study and on June 22nd, 1916, a second piece was removed from one of the lesions on the back. At this time, tissue cultures were made, on which we expect to report later. Sections stained by the Levaditi method were negative for spirochætae and Ziehl's stain did not show any acid fast bacilli. With hæmatoxylin and eosin stain the picture was as follows: In the epidermis there is moderate hyperkeratosis and obliteration of interpapillary spaces and thinning of the stratum mucosum. The changes in the derma and subcutaneous tissue are very pronounced and at first glance suggest tuberculosis, on account of the many large giant cells of the type commonly seen in tubercles. There is a general cellular infiltration of the upper portion of the derma and these same cells have invaded the deeper portion, grouped in numerous islands. The cells are of the

epithelioid type, interspersed with small round mononuclear cells (lymphocytes) with a few polynuclear cells. The grouping of these endothelioid cells with giant cells and a surrounding zone of small round cells suggests tubercle formation but there are blood vessels present in groups, and no necrosis. The connective tissue between the islands appears normal.

Diagnosis: With the exclusion of syphilis, leprosy and tuberculosis and the clinical picture of non-ulcerating, purplish elevations in the derma, we appear to be dealing with one of the infectious granulomas to which the name sarcoid has been applied. These sarcoids are of several types and are described in four fairly well defined groups bearing the names of Boeck, Darier and Roussy, Darier, and Spiegler and Fendt. This case, microscopically, resembles mostly the Darier and Roussy type but clinically the Darier type, so that it appears to require a separate place in any attempt at classification."

Through the courtesy of Dr. Trimble, the following report of Dr. Alexander Fraser is added.

"The specimen consists of a piece of skin, the corium and subcutaneum of which are infiltrated with numerous small nodules and groups of nodules.

In the corium the nodules are situated around the blood vessels and in places have invaded the epiderm and, having replaced the prickle layer, lie immediately under the corneum. In the subcutis they are situated about the vessels, hair follicles and sweat glands.

The histological architecture of these nodules is very similar to that of the epithelioid cells which frequently, by fusion, form giant cells. The peripheral portion is densely infiltrated with wandering cells, chiefly of lymphoid type. Mixed with the cells, in addition to the anastomosing ramifications from the cytoplasm of the epithelioid and giant cells, there is evidently some fibrin which exists as a reticulum of very fine threads which sometimes are seen radiating from a central mass.

The cytoplasm of the epithelioid and giant cells does not show the tendency to necrosis which is *commonly*, but not by any means *always* a striking feature in tuberculosis. Instead, it is reticulated, vacuolated or 'foamy,' as if autolysis, or perhaps fatty infiltration were going on. Stains for tubercle bacilli gave negative results (which means nothing).

The blood examination, kindly made by Dr. William M. Higgins, showed the following: Hæmaglobin, 85 per cent; red blood cells, 5,100,000; hæmaglobin index, 0.83; leucocytes, 8,600. Differential leucocyte count:

Polynuclears,	89.4 per cent.
Transitionals,	3.0 per cent.
Lymphocytes, small,	3.2 per cent.
Lymphocytes, large,	1.6 per cent.
Large mononuclears,	1.6 per cent.
Eosinophile,	1.0 per cent.
Basophile,	0.2 per cent.

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100.0 per cent.

No abnormal red cells were present. The red cell count shows nothing that is significant, the findings being practically within normal limits. In the white cell count, the leucocytes are not increased in number but in the differential there is a fairly high relative polynuclear increase, with the lymphocytes correspondingly decreased."

#### DISCUSSION.

DR. WHITEHOUSE said that from the history of the development of the eruption, he was inclined to believe that it was not a case of mycosis fungoides,—coming on so suddenly and developing such large infiltrated masses, with an absolute lack of itching. The histological picture was not that of mycosis fun-

goides. It would possibly conform more to the type of eruption of which several cases had been shown recently,—namely, sarcoid. Probably further investigation would show the condition to be the sarcoid of Boeck.

DR. TRIMBLE said that he had seen the case once before, probably about the time Dr. Fox first saw the patient. He had been sent to the Skin and Cancer Hospital to have a Wassermann test and also to have a pathological specimen taken, and he was kind enough to allow the speaker to examine the lesions. At first glance the condition seemed to be mycosis fungoides, but the face lesion gave a different impression. The lesion on the face was very much like a case of sarcoid that he had seen several years before, and he mentioned this fact to one of the pathological workers at the time. Boeck, under the title of multiple benign sarcoid, had defined three types,—a papular, a nodular and a diffuse infiltrating variety. The speaker said that he had never before seen the third type, but the case presented would seem to belong under that head. He had directed the attention of one of the pathological workers to sarcoid, and afterward it was said in the laboratory that microscopically it did not resemble mycosis fungoides. He had taken a specimen to the University and Bellevue Laboratory, and two especially good pathologists, without being told anything about it, said that it was tuberculous in appearance. Dr. Fox had asked him to get a written report, and he had done so, showing what was thought about it in the University and Bellevue School, in the General Pathological Department. Clinically, the lesion on the body resembled mycosis fungoides; the lesion on the face had the appearance of the sarcoid of Boeck, and from what had been said in the discussion, the latter was probably the correct diagnosis.

DR. KINGSBURY thought it was a case of sarcoid, although the lesions were not altogether typical. The diagnosis of leucæmia cutis might be considered from the clinical standpoint.

DR. WISE agreed with Dr. Kingsbury that the diagnosis of leucæmia cutis should be considered from the clinical point of view. The sharply defined, raised, bluish and violaceous tumors presented a clinical picture indistinguishable from that of leucæmia cutis circumscriptum.

DR. HEIMANN said that he had made his first acquaintance with the case through a microscopic specimen, the examination of which suggested mycosis fungoides, or some form of sarcoid,—more likely the mycosis. However, on seeing the patient, he felt that mycosis could be eliminated, and that the lesion was a sarcoid. Leucæmia was a possibility, as well as sarcoma, for if it did not look like sarcoma it would not be called sarcoid. He had seen an identical case in Vienna which had been regarded as sarcoid with absolute certainty. He saw no reason clinically for considering mycosis fungoides, for the localization, the absence of a premycotic dermatosis, and the general appearance of the lesions indicated the probability of sarcoid.

DR. MACKEE said that the fact that the lesions had failed to respond readily to fairly intensive Roentgenotherapy would militate against a diagnosis of mycosis fungoides. Conversely, the fact that there was considerable improvement in one tumor following a single application of the solid carbon dioxide would favor a diagnosis of sarcoid. Finally, the histological picture resembled sarcoid more than it did mycosis fungoides.

DR. FORDYCE considered the case one of sarcoid. He had previously examined a case of sarcoid histologically, and the pathological conditions in the present case were identical with the one he had previously seen.

DR. SHERWELL referred to the case of a Scandinavian gentleman in one or two of the immediately preceding meetings. It would perhaps be remembered that the tumor lesions were situated on and above the malar prominences. They much resembled those of the case shown. Those who made the diagnosis at the time of presentation pronounced them sarcoid of an unusual character. The speaker said he was of the opinion that this case also was one of sarcoid and not mycosis fungoides.



DR. JOHNSTON said that the histological picture was that of a granuloma. The offending agent might be the tubercle bacillus or, perhaps, the Leishman-Donovan body. Color was lent to the latter suggestion by the patient's long residence in Arabia. Cases had been described by Italian physicians as originating in Sicily.

DR. HOWARD FOX said that he had never before seen a similar case and thought that from a clinical standpoint both sarcoid and mycosis fungoides should be considered. He agreed with Dr. MacKee that the practical failure to improve under the X-ray was strong evidence against the diagnosis of mycosis fungoides.

#### ERYTHEMA FIGURATUM PERSTANS. Presented by DR. WISE.

The patient, L. S., a male, single, aged 35 years, presented a disease which began a year and a half ago. He exhibited a number of lesions, some circular, others semicircular and festooned, somewhat raised above the level of the skin and slightly scaly, on various parts of the body. Some of them had existed as they were for as much as three weeks, which was the longest time that any of them had been observed by the speaker. The patient also had had moderate attacks of erythema and urticaria. There were a number of circular and semi-circular lesions on the abdomen, in the axillæ and on the neck, with patches on the upper part of the shoulders and a few on the upper arms. The edges were raised, reddish-pink in color and scaly, while the interior of the plaques was flattened and yellowish in color. A histologic section was demonstrated. The changes were suggestive of a sub-acute inflammatory process resembling erythema multiforme. Cases of this type had recently been reported by Wende.

#### VERRUCOUS LESIONS ON HEAD. Presented by DR. TRIMBLE.

The patient was a man, 54 years of age, a tailor by occupation. The entire vertex was bald and in this area, in front and to the right of the middle line, was a lesion two and one-half inches long and half an inch wide. It might be termed linear, although it was not straight. The color was dusky-red to brown, and it was verrucous in character. The duration was one and a half years, and it began anteriorly, gradually extending backward.

#### DISCUSSION.

DR. POTTER said that it seemed to him to be a case of senile keratosis, of unusual arrangement.

DR. HEIMANN agreed with Dr. Potter.

#### EXTENSIVE LUPUS VULGARIS. Presented by DR. HOWARD FOX

The patient, Martha J., had been shown five months previously, at the last meeting of the Society. She had been exhibited as a possible case of lupus, as at that time no histological examination had been made. The diagnosis of lepra had been considered but ruled out, as there was no anæsthesia or change in sensation in any of the numerous lesions scattered over the face and extremities. The Wassermann reaction was negative, which seemed to be as much against the diagnosis of nodular leprosy as against syphilis. On account of the extent of the eruption, the presence of nodules near the eyebrows and lobules of the ears and a history of a previous nasal condition, five of the members present were inclined to diagnosis of leprosy. The diagnosis of lupus vulgaris was, however, later confirmed by histological examination made by Dr. Heimann, who reported as follows: "Alcohol fixation, paraffin



imbedding, hæmatoxylin-eosin stain. Low power, Zeiss Occ. 4. Obj. A. The epidermis is normal in configuration and structure, and there are no pathological changes in the epithelial cells. The shape of the papillary body is unmodified, but the vessels at this level are markedly dilated and their endothelial lining swollen, although they give no sign of thrombosis: The collagen in the papillæ is œdematous and rich in fibroblasts, and at certain points, foci of a granulomatous nature are to be seen. These are very small at this level. The vessels of the subpapillary plexus are also enlarged and otherwise altered as those mentioned above. The corium is the seat of a profound and varied infiltration which is prevailingly composed of numerous foci, tending to be circular or elliptical in outline, surrounded by strands of connective tissue, and situated about dilated, engorged or thrombosed vessels.

High power, Zeiss, Occ. 4. Obj. DD.

The infiltration is that of a granuloma and the foci mentioned have softening necrotic centres, or centres in which the tingibility of the cells is reduced. The foci further seem to be arranged about dilated or thrombosed vessels and contain enlarged and engorged lymphatics. The cellular elements consist of epithelioid, plasma, lymphocytic and fibroblastic types, among which are seen numerous examples of Langerhans giant cells, the entire picture suggesting tuberculosis, more particularly lupus vulgaris. There are no lepra cells, and the carbol-fuchsin dye fails to reveal the presence of acid fast bacilli. The last mentioned fact, with the absence of lepra cells, rules out nodular leprosy, and the lack of bacilli further excluded any type of tuberculosis that might be considered in the present case, except lupus vulgaris.

Diagnosis, lupus vulgaris."

The lesions on the face were being destroyed by high frequency cauterization.

URTICARIA PERSTANS. Presented by DR. HEIMANN.

The patient was 22 years of age, and had suffered from the condition for four years. The lesions began as itching wheals and remained as persistent papules. When presented, the forearms, chest, back and abdomen were covered with brown lenticular lesions, the size of a split pea, rather hard, not scaling, and tending to become wheals when rubbed. In addition, simple wheals were to be seen, and dermatographism was present, although not pronounced.

#### DISCUSSION.

DR. WISE said that, although according to the exhibitor, the histological picture was that of urticaria, clinically the case resembled parapsoriasis very strongly.

DR. HEIMANN said he thought it was distinctively in the exudative group,—that the lesions persisted, hence the Latin name, perstans. Clinically, it was urticaria, but microscopically, not urticaria pigmentosa. It might be termed an urticaria perstans, which would be a descriptive clinical label, but of course not explanatory as to the nature of the process.

PEMPHIGUS. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a single woman, 25 years of age. About eight months ago, she entered the clinic with a generalized eruption which consisted of erythematous plaques, vesicles and bullæ. There were also ulcerations of the buccal mucosa. The eruption subsided in a few weeks, but since that time there had been several such attacks. Finally, the patient ceased to have outbreaks resembling erythema multiforme. There were no more sudden attacks and no more erythema. Instead, there were always present a few well-filled bullæ on different parts of the body. On the backs of the hands a large number of milium-like bodies appeared and the patient stated that bullæ often followed

traumatism. The patient had received twenty-two auto-serum injections without benefit.

#### DISCUSSION.

DR. TRIMBLE said that he had seen two or three such cases, but did not know what name to give them.

DR. MACKEE said that the case resembled one that Dr. Fordyce had presented before the Society on several occasions. In that case there had at first been frequent attacks of apparent erythema multiforme of the bullous type. Later, the eruption resembled epidermolysis bullosa. In that case, also, there were numerous epidermic cysts on the backs of the hands and bullous lesions would follow local injury. He further said that the diagnosis in such cases rested between acquired epidermolysis bullosa and pemphigus with traumatic lesions.

DR. KINGSBURY said that he had not examined the case carefully, but that the lesions he did see suggested very strongly Duhring's disease.

DR. WISE said that the chief interest attaching to the case consisted in the presence of the miliary vesicles on the hands. He was not aware that in erythema multiforme such vesicles occurred, nor whether they were commonly seen in Duhring's disease. He had never encountered them in other dermatoses than pemphigus and epidermolysis bullosa.

DR. TRIMBLE said that he was not prepared to answer Dr. Wise's question, but that apropos of Dr. MacKee's remarks, it seemed very similar to the case Dr. Fordyce had previously shown. He had seen Dr. Fordyce's case a number of times, and had always been under the impression that it was one of epidermolysis bullosa of the acquired type. It was very much more severe than this case. The lesions in the case presented were so mild that he had hesitated to make the diagnosis. Both of the patients had the milium-like bodies. He had heard it said that they followed numerous diseases, though he could only recall the two Dr. Wise had mentioned.

#### PERSISTENT ERYTHEMA IN ZOSTER. Presented by DR. MACKEE for DR. FORDYCE.

The patient, C. Z., was a woman, 60 years of age. Six months ago she had an attack of herpes zoster frontalis, and since then had had a persistent erythema involving the forehead and cheek on the left side. The redness of the affected areas was in part due to telangiectatic vessels. Pressure did not cause a complete recession of the redness. The patient was presented for suggestions as to treatment.

#### DISCUSSION.

DR. SHERWELL said that, as Dr. Wise had requested suggestions for treatment he would like to state that the use of the continued electric current had to his knowledge proved of value in some cases. A peculiarity of herpes of the 5th nerve was noteworthy,—when the lesion affected or was manifest on the ala nasi, the eye on that side was almost always painfully affected and there was great pain and disturbance of nutrition and occasionally, ulceration of the cornea, etc. Dr. Jonathan Hutchinson had been the first to observe or comment on this, and after having heard him in 1881, he (the speaker) had been the first to bring it to the attention of the Society. The speaker said that he had personally seen several cases in which the pain was relieved by the form of electricity mentioned.

#### TWO CASES OF EXTRA-GENITAL LESIONS. Presented by DR. FORDYCE.

The two young men presented initial lesions of the fore-arms. Both had secondary eruptions and absence of genital lesions. The cases were of interest because both men worked in the same ice-cream factory and carried on their

arms buckets containing ice cream. The traumatism resulting from their occupation had probably become infected with the spirochætæ.

ACNE VARIOLIFORMIS. Presented by DR. POTTER.

The patient was a boy 16½ years old, born in England of Russian parents. He came to this country when two years old. Family history, negative. The patient had never had any serious illness, but had always been delicate. The trouble started three years ago, when the boy first noticed a few pimples on the face. These were small and hard, gradually grew larger, and finally broke down and discharged a little pus; then crusted over. When the crusts came off, a red scar remained. The condition extended from the face to the neck, chest and more particularly the shoulders and interscapular region. When first seen, the face, neck, shoulders and back were covered with crusts. These had been removed under treatment, and when presented, the whole area involved showed superficial scarring. The von Pirquet test was negative.

DISCUSSION.

DR. FORDYCE considered the case to be an exaggerated form of acne vulgaris, with secondary staphylogenic infection.

RECURRENT SYPHILITIC EXANTHEM. Presented by DR. MACKEE for DR. FORDYCE.

The patient had a primary lesion on the penis and a generalized secondary roseola, eight months ago. He received one course of antisiphilitic treatment, consisting of six injections of salvarsan and eighteen injections of the salicylate of mercury, at weekly intervals. He failed to remain under observation, but returned to the clinic a few days ago, with a generalized macular eruption.

LARVA MIGRANS. Presented by DR. WHITEHOUSE.

The patient, a young man of about 30 years, contracted the disease on August 29th, while on duty on the Mexican border, as a member of the U. S. forces stationed there. There were thirteen cases to his knowledge, five of whom, including himself, were definitely traced to a certain ranch in Texas where they slept on the ground, from twelve o'clock one day until five the next morning. At that time, he had thirty-eight distinct and active foci. These were treated for one month by the army surgeons, by various methods, including excision of the furrows and adjacent skin, freezing with ethyl chloride, chloroform applications, caustics and the X-ray. When first examined, a month later, on his return to New York, there were about twenty-five active lesions, and on presentation, after a month's treatment with maceration by baths and scrubbing, and applications of 10 per cent. epicarin in white vaseline, the number was reduced to eight or ten active foci. He presented two or three lesions on the left fore-arm; two on the right hand, dorsal surface, and along the side of one finger; three on the left side of the chest; and one very active and characteristic lesion over the lower lumbar region. Some of the furrows were one and a half to two inches long. They often progressed nearly that far in a night, and would often lie dormant some time before becoming active again. The furrow did not contain the larva, for if excised the larva began its activities again at least a half inch in advance of its terminus.

## NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY.

Regular Meeting, Oct. 3, 1916.

CHARLES M. WILLIAMS, M.D., *Chairman.*

## LICHEN ACUMINATUS. Presented by DR. TRIMBLE.

The patient was a man aged 55 years. Since childhood he had enjoyed good health, and had never before suffered from a skin affection. The duration of the disease was five months, and the eruption began on the chest and gradually spread to other areas. It was brownish-red in color, covered with branny scales and had the usual enlarged follicles with horny plugs.

## PEMPHIGUS. Presented by DR. TRIMBLE.

The patient, M. F., was born in Russia. He was 43 years of age, and by occupation a tailor. His mother was living at the time of presentation; his father was dead, and one brother and sister were living and in good health, while one brother and sister were dead.

The duration of the disease was two years and five months, and the patient had been one year and five months in Kings County Hospital. He was admitted to the Skin and Cancer Hospital on December 6th, 1915. His first remembrance of his condition was the appearance of an eruption on his shoulders, accompanied by slight itching, the eruption having spread downwards until the trunk and limbs became involved. He noticed the occurrence of bullæ about two months after the eruption appeared on the shoulders; these were of various sizes, from that of a bean to an orange, and filled with clear fluid which, when emptied, left a raw, bleeding surface beneath.

On admission to the Hospital, the patient was covered with an erythematous rash, desquamating, with thick crusts scattered over the body; his general condition was fair; the Wassermann test was negative and the urine, examined at various times, showed nothing abnormal.

During his stay at the hospital crops of bullæ appeared on the patient's body, arms and limbs, and at one time several pea sized ones appeared in the mouth. No bullæ were found in the patient's mouth during the four months previous to his presentation.

Treatment, while at the Skin and Cancer Hospital, consisted of various salves, of which unguentum calamine and zinc oxide gave the most relief. Internally, sodium lactate, gr. v., t. i. d., was given over a period of six weeks without improvement. Streptococcus vaccines from streptococci isolated from a blood culture and bullæ on body were injected intramuscularly. Eight injections were given, one every five days, in increasing doses ranging from ten million to a hundred million. There was improvement, but the patient complained of itching after the two last injections of a hundred million.

At the time of presentation the patient's body was covered with greasy crusts, with scattered areas of dark, erythematous skin; small flaccid bullæ appeared daily and were defined poorly. The fluid was clear at first but soon became purulent. On rupturing, it formed a crust over the excoriated surface beneath. The skin around the patient's neck and especially at the back of the neck was thickened and furred.

## DISCUSSION.

DR. PISKO stated that in spite of the size of some of the bullæ he regarded the case as eczema. He said that it was too benign in character for pemphigus, and that this condition would have been worse in two and a half years than it was.



DR. OULMANN regarded the case as one of pemphigus.

DR. KINGSBURY said that although he held some of Dr. Pisko's views as pertinent, he was nevertheless inclined to favor the diagnosis of pemphigus.

DR. H. FOX asserted that although an absolute diagnosis could not be made without careful study, he favored that of pemphigus foliaceus. He said that he was unfamiliar with eczema characterized by flcid bullæ and defined pemphigus foliaceus as presenting a combined picture of exfoliative dermatitis and bullæ formation. The crusted lesions, he said, supported the diagnosis of pemphigus.

DR. HEINMANN said that there was no doubt in his mind as to the diagnosis of pemphigus. Bullæ of this type were unknown in eczema, and that this fact excluded the views of one of the previous speakers. Furthermore, pemphigus foliaceus began either as pemphigus vulgaris, dermatitis herpetiformis, or as one of the many other types of bullous dermatoses, gradually to assume the features of pemphigus foliaceus. The fact that the patient was still in fair health was not against this diagnosis, as the disease at times persisted for sixteen years.

#### PREMYCOTIC ERYTHRODERMIA. Presented by Drs. MacKEE AND WISE.

The patient, L. W., reported the duration of the disease as seven years. The location of the disease was general. The past history showed the trouble recurring and relapsing for the past seven years. Various parts of the body and the face and neck presented areas of redness, scaling and moderate induration. Some of the lesions were circinate, some simply macular, others papular and scaly. Itching was sometimes intense. On the face, the eruption was more seborrheic in type. The histology was indefinite. The epidermis was thickened and showed inclusion cells and areas of degeneration, with very large numbers of mitotic figures, and the superficial and deep vessels were dilated and surrounded by a mild lymphocytic infiltration. The cutis was negative, while the epidermis suggested premycosis.

#### DISCUSSION.

DR. MacKEE said that histologically the case suggested mycosis fungoides.

DR. WISE thought that this was true also of its clinical appearance.

DR. FOX stated that the jagged appearance of some of the lesions reminded him of lichen acuminatus.

DR. TRIMBLE said that he had seen the case at the Skin and Cancer Hospital and that its clinical appearance was so clearly that of mycosis fungoides that he had had no microscopic examination made.

DR. WILLIAMS was unable to detect any suggestion of lichen acuminatus.

DR. MacKEE said that clinically he had considered the case of mycosis fungoides but he had a microscopic examination made to exclude parapsoriasis and lichen acuminatus.

#### CASE FOR DIAGNOSIS. Presented by DR. ROTHWELL.

The patient was a man, 25 years old, and a barber by occupation. From scalp to toes he was covered with an eruption of vesicles the size of a match head, arising from practically normal skin. Many lesions were impetiginous in character, though the crusts were quite superficial; in some places the lesions were circinate in appearance. Pigmentation was apparent in the genito-crural region, where also coalescence was observed. The disease began, according to the patient's statement, in the left axilla, and had existed for two and one-half months. At the first outbreak the blebs were hazel-nut

in size; since that time all the recurrences had been of the small variety. Slight itching was the only subjective symptom.

#### DISCUSSION.

DR. BECHET suggested a drug eruption.

DR. MACKEE thought of dermatitis herpetiformis and pyoderma and said that he favored the latter view.

DR. TRIMBLE said that the case might be a miliary impetigo.

DR. FOX said that iodine should be tested for in the vesicles.

DR. ROSEN stated that in many respects the case resembled grain itch.

#### RHINOSCLEROMA. Presented by Drs. MACKEE AND WISE.

The patient, W. S., was born in Austria, had been six years in this country and was married. The duration of the disease at the time of presentation was two years. Location, nose. The family history was negative; the past history showed that the disease began in the left ala of the nose. The tumor grew very slowly for one year and a half, and rapidly during the six months previous to presentation. At the time of presentation the nose was enormously enlarged and very hard. Ulceration of the nasal and pharyngeal mucosa was present. The treatment consisted of intensive filtered X-ray administrations.

Histology: Marked hyperkeratosis, especially follicular. Moderate acanthosis with oedema and mitotic figures. The vessels were enormously dilated and congested. The derma was oedematous. There was a marked, diffuse infiltration of plasma cells and connective tissue cells mostly—also lymphocytic cells. The tissue was obtained from the lip and showed the early stage of the disease.

#### DISCUSSION.

DR. KINGSBURY thought it was a sarcoma.

DR. MACKEE said that the histology of the lesion suggested rhinoscleroma rather than sarcoma.

DR. OULMANN said that although the microscopic appearance was that of rhinoscleroma, it was not entirely characteristic, but that sarcoma could be eliminated.

#### LICHEN PLANUS. Presented by Dr. WISE.

The patient, M. I., aged 73 years, was married, a Russian, and a cap maker by occupation. He attended Mt. Sinai Dispensary. On the day the case was presented the patient had come for the first visit. There was a grayish white, slightly scaly patch on the lower lip; it was of seven months' duration, and had been gradually increasing in size. The inner surfaces of the cheeks showed small spots of macular and circinate leukoplakia. There was no eruption on any part of the body or any visible mucous membranes except the backs of the hands. This appeared as a folliculitis. The Wassermann result had not yet been obtained.

#### DISCUSSION.

DR. TRIMBLE said that the lip lesions resembled lichen planus, but that he had never seen lichen on the vermilion border. He thought that the labial lesions might be a precancerous dermatosis.

DR. PISKO thought that lip lesions were those of early cancer.

## MELANODERMA OF UNDETERMINED ORIGIN. Presented by DR. LANE.

The patient was a colored man, aged 39 years, born in New York. The increased pigmentation began in March, with a small spot on the nose. By the end of April it had reached the proportions seen at the time of presentation. The increase was most marked on the lower part of the face, where it was uniform and deep black. In other locations it was made up of small spots, varying in size from a pin head to a dime. The small spots showed that the origin was perifollicular. Pigment was present on the inner side of each cheek. There was no history of preceding illness and no history of any drug having been used. There had been no abnormal sensation at any time, except violent itching after hot baths, since the time of the appearance of rash. The Wasserman reaction was negative.

## DISCUSSION.

DR. PISKO said that the lesions suggested those of postlichen pigmentation.

DR. ROSEN asked whether purpura hæmorrhagica had been ruled out.

DR. WILLIAMS said that some of the lesions on the chest were streaked and glistened like lichen papules.

DR. LANE said that there had never been any evidence of purpura.

## EXTENSIVE LUPUS ERYTHEMATOSUS. Presented by DR. HOWARD FOX.

The patient, C. A., was a woman, 27 years of age, born in the United States. She was a mulatress with an admixture of Indian blood. She gave a strong family history of tuberculosis. The eruption had first appeared two years and four months previously and was present upon the scalp, face, ears, backs of the hands and back. The patches were dry, sharply circumscribed, slightly scaly and of a violaceous color. The patches on the back were unusual in size, the largest of the four areas present measuring 4 by 7 inches. The patient was under treatment with radium.

## DISCUSSION.

DR. FOX said that he presented this patient to show the effect of radium on the process, and stated that Dr. Simpson, of Chicago, used radium first and the Kromayer light later, and obtained beautiful results.

## ACNITIS. Presented by DRs. MACKEE AND WISE.

The patient was a man, aged 34 years, apparently in good health. The skin of the face exhibited a rosacea of moderate severity. In addition to the changes accompanying the rosacea, the skin of the cheeks, nose and chin exhibited numerous pinhead sized, globular, yellowish, translucent papules, characteristic of acnitis. The diagnosis had been previously confirmed by microscopic examination of one of the little papules.

Other cases demonstrated were:

ERYTHEMA MULTIFORME. Presented by DR. BECHET.

SCLERODERMA. Presented by DR. BECHET.

MORPHEA IN A CHILD OF SIX. Presented by DR. HEIMANN.

ERYTHEMA INDURATUM. Presented by DRs. MACKEE AND WISE.

ERYTHEMA INDURATUM. Presented by DR. BECHET.

FOLLICULITIS DECALVANS. Presented by DR. FELDMAN (by invitation).

BLASTOMYCOSIS. Presented by DR. HEIMANN.

BLASTOMYCOSIS. Presented by DR. OULMANN (previously shown at Manhattan Dermatological Society two years ago.)

LEPRA. Presented by DR. FOX.

SCALY SYPHILODERM OF THE SOLES. Presented by DRs. MACKEE AND WISE.

ANNULAR SYPHILIS. Presented by DR. FOX.

LUPUS ERYTHEMATOSUS. Presented by DR. ROTHWELL.

LUPUS ERYTHEMATOSUS. Presented by DRs. MACKEE AND WISE.

TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. LANE.

LUPUS ERYTHEMATOSUS ASSOCIATED WITH SARCOID. Presented by DR TRIMBLE (previously presented before the N. Y. Dermatological Society).



# REVIEW OF DERMATOLOGY AND SYPHILIS.

Under the direction of

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Assisted by

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## JAHRBUCH FÜR KINDERHEILKUNDE.

(May and June, 1915, xxxi, No. 5).

Abstracted by HARVEY PARKER TOWLE, M.D.

### SUSCEPTIBILITY TO TUBERCULIN. BESSAU.

This article is not only interesting of itself but it is even more interesting because of the light which it throws upon the larger, general subject of anaphylaxis.

Bessau takes especial care to warn the reader, at the outset, that the phenomenon of tuberculin susceptibility must not be confounded with the anaphylactic reaction produced by the albuminous content of the tubercle bacillus. The latter behaves like any other anaphylactic phenomenon. Susceptibility to tuberculin, on the contrary, can not be demonstrated, in advance, in a normal subject nor its manifestations caused by an albumin proteid. The characteristic component of tuberculin is a polypepted, a non-anaphylactogenous substance. Therefore, antibodies play no part in susceptibility. Nor can tuberculin susceptibility, like anaphylaxis, be either passively induced or transmitted to the offspring.

Bessau arrived at the conclusions by comparing the phenomena of susceptibility to tuberculin with the phenomena of susceptibility to serum, a state, he says, undoubtedly due to antibodies. For example, he reports these differences:

The system reacts more slowly to tuberculin than to serum.

Tuberculin rarely, serum usually, produces an exanthem. Our ignorance

of the nature of the serum reaction prevents an explanation of this difference.

Tuberculin will not sensitize a normal individual. Serum not only will, but a fairly characteristic incubation period also is noted.

Bessau argues, further, that the differences which the local signs present to injections of tuberculin and of serum are added proof that antibodies are not concerned in the manifestations of tuberculin susceptibility.

With tuberculin, the local symptoms develop gradually and with no recognizable period of incubation. With serum, the symptoms develop with a rush.

With tuberculin, the signs of reaction are always most intense in the centre of the tuberculosis area. With serum, the intensity is greatest in the periphery, as a rule. A serum injection will sometimes awaken new life in the periphery of a fading papule by causing a fresh explosion of antibodies. Bessau explains that such phenomena of renewed activity, in all probability, indicate an action and a reaction on remnants of antigen still persisting in the peripheral tissues and indicate, also, a mere local, not a systemic, proceeding. Similar phenomena of reactivation do not occur with tuberculin injections.

He also finds characteristic differences in the respective local effects of repeated intradermal injections of the two substances. Whereas, the curve of the responsiveness of the local tissues to injections of serum rises quickly and quickly reaches its acme, it also declines to zero rapidly, after brief maintenance at its highest level. Bessau considers this behavior of the serum susceptibility curve and the rapid loss of responsive power, characteristic. This state of maximum effects in a very short time, an equally brief existence and a subsequent loss of power to elicit response to the zero mark revealed by the serum reaction curve, Bessau has named katanaphylaxis. It is not, he says, a manifestation of antianaphylaxis but a result of overwork. The calls upon the antibody-producing machinery of the rapidly repeated injections have induced so great a state of exhaustion that the power to respond is first decreased and then lost. On the other hand, the response to the last tuberculin injection is as energetic as the first, under identical conditions.

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## ARCHIV FÜR KINDERHEILKUNDE.

(lxii, Nos. 5 and 6, 1914.)

Abstracted by HARVEY PARKER TOWLE, M.D.

### THE DIAGNOSTIC SIGNIFICANCE OF THE DOHLE LEUCOCYTIC INCLUSIONS IN SCARLET FEVER, DIPHTHERIA, ANGINA AND SERUM EXANTHEMS. S. N. ROSANOFF, p. 321.

First, Dr. Rosanoff discusses very briefly the differing opinions as to the nature of the Dohle inclusion bodies and their significance, after which he describes his own results in 646 examinations of blood smears.

He concludes that the examination of a single blood smear is insufficient for the diagnosis of scarlet fever, because inclusion bodies also occur in measles, diphtheria, angina and other diseases. On the other hand, their absence during the early days of the suspected disease speaks positively against the diagnosis. As an early diagnostic sign, the value is limited by the fact that, in mild cases, they are few in number and therefore, difficult to find. The strength of the reaction is related to the intensity of the disease. In cases of scarlet fever complicating measles or diphtheria, a positive differential diagnosis can not be made before the fifth day. The presence of the inclusion bodies in angina, except in phlegmonous forms, should excite the suspicion of scarlet fever. If inclusion bodies are found after the fifth

day of the initial disease, they serve to differentiate true scarlet fever from scarlet fever-like exanthems. Rosanoff does not, however, consider the inclusion bodies to be the active agent of scarlet fever.

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## JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE UND UROLOGIE.

(December, 1915, No. 12.)

Abstracted by M. F. LAUTMAN, M.D.

ECTHYMA GANGRENOSUM CACHECTICORUM. SAITO, p. 909.

(*Ibidem*, January, 1916, xvi, No. 1.)

PSEUDOSYPHILITIC LEUCODERMA OCCURRING IN THE JAPANESE.  
OKAMURA, p. 2.

This observer reports a variety of leucoderma which he has observed only in the Japanese race and which, in its form and size, resembles closely the depigmentations seen in syphilis and psoriasis. It is, however, more apt to be seen over the lumbar region, back, buttocks, thoracic and abdominal walls, axillary folds and scapular regions, while the neck and extremities are but exceptionally involved. It is also more common in men than in women and is usually seen between the ages of 15 and 50. The Wassermann rules out syphilis as an ætiological factor, and psoriasis need not be considered on account of its extreme rarity among the Japanese.

Histologically, the cells in the epidermis and basal cell layer at the margins of an affected area show very slight loss of pigment, but those in the centre of the spot are quite free from pigment. The cutis shows no pigment whatsoever. The author believes that this condition is seen only in the Japanese and suggests some causal relationship between it and the manner of dress as well as the natural hyper-pigmentation of the skin in the Japanese.

PEMPHIGOID ERUPTION DUE TO BED-BUG BITE. HANAWA, p. 15.

Under the designation of urticaria bullosa atypica e cimicibus, Hanawa reports a case of pemphigoid eruption in a young man, twenty-one years old. The bullæ varied in size from a poppy seed to a hen's egg, were situated on an erythematous base and were filled with clear, sterile fluid.

In contradistinction to urticaria bullosa a cimicibus, in Hanawa's case the characteristic wheal formation and intense itching were absent and the cutaneous œdema was less.

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THE TREATMENT OF LEPRO MACULOSA ANNULARIS WITH KOGA'S  
CYANOCUPROL. CHUJO AND TAKAHARA, p. 25.

(*Ibidem*, February, 1916, xvi, No. 2.)

AN ADVANCED CASE OF CEREBROSPINAL LUES FAVORABLY INFLUENCED BY SWIFT-ELLIS THERAPY. MIYATA, p. 89.

A CASE OF A PELLAGROID DERMATOSIS. KURITA AND SATO, p. 101.

(*Ibidem*, March, 1916, xvi, No. 3.)

CHARACTERS OF THE NEW GROWTHS IN XERODERMA PIGMENTOSUM.  
NAKAGAWA, p. 216.

Of the eight neoplasms, five were squamous celled carcinoma, one cutaneous horn, one fibroma and one melanosarcoma. The carcinomatous growth metastasize the least frequently while the melanosarcomata the most frequently. Mestastases occur more frequently in males than females. Under therapy, the author recommends early and thorough extirpation, or where this is not possible, radium therapy should be instituted.

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AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(May, 1916, cli, No. 5.)

Abstracted by R. C. JAMIESON, M.D.

RESULTS WITH CHOLESTERINIZED ANTIGENS IN NON-SYPHILITIC  
SERA. C. W. McCURE AND E. S. LOTT, p. 712.

Six hundred and fifty-eight sera from five hundred and one cases were tested, using alcoholic extract as well as chlosterinized antigen, the percentage of error being 1.97 per cent., non-specific reactions being obtained with antigens representing additions of .0125 to .0996 of cholesterol per 100 cc. of alcoholic extract.

The authors conclude from their work that the addition of cholesterol renders the alcoholic extract more sensitive and less specific and therefore not so dependable in diagnosis.

(*Ibidem*, October, 1916, clii, No. 4.)

DIAGNOSIS AND GENERAL TREATMENT OF SYPHILIS. JOHN A. FORDYCE,  
p. 469.

Fordyce emphasizes the importance of early diagnosis by means of the dark-field examination and the Wassermann test, not depending on clinical characteristics, especially in chancroidal infections. Early cases, with a negative Wassermann, under intensive treatment should continue to have a negative, and positive reactions are more easily influenced than in cases of long duration. Variations occur, however, in which there is a persistent positive in the face of negative clinical evidence and seemingly sufficient treatment, or vice versa, positive evidence and a negative Wassermann may require treatment to elicit a positive.

He lays stress on the fact that spinal fluid examination is of utmost importance, not only with regard to the Wassermann, globulin and cells but also to the colloidal gold test which gives a curve in lues that is distinguishable for luetic and paretic conditions, even before there are any symptoms pointing to involvement of the central nervous system.

He considers syphilis in early infections to be curable if sufficient treatment is given, the exact amount being undeterminatble; in secondary lues he precedes his salvarsan by mercury in a soluble form, at the same time watching closely the state of the central nervous system; in latent syphilis the cardiovascular system should be carefully examined before treatment, and he thinks mercury and potassium iodide probably of more value than an occasional salvarsan.

He believes a case cured with a persistently negative Wassermann for one



year, even after a provocative salvarsan, provided there is also a normal spinal fluid.

The article is accompanied by charts representing the results on the Wassermann test after treatment in early infections, after provocative salvarsan and intractable reactions after persistent treatment.

#### TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM. HOMER F. SWIFT, p. 490.

Swift states that there is a large percentage ofluetics in the secondary stage with involvement of the central nervous system, but the great majority of lesions undergo spontaneous involution as so few show nerve involvement in later years.

He explains the relapse of nerve cases in the secondary cases of lues inadequately treated with salvarsan, on the ground that foci of spirochætæ remained in the tissues and subsequently developed rapidly on account of the lack of tissue immunity.

He emphasizes the importance of the early recognition of tabes and paresis by means of comparatively slight nerve disturbances which ultimately develop into the more serious forms, and thinks the blood and cerebrospinal fluid findings of great help in diagnosis.

The treatment followed was intravenous salvarsan and intraspinal salvarsanized serum, using 15 cc. of whole serum, repeated every two weeks, provided irritation excited is not too great nor the general health depressed.

Patients with involvement of the cerebral meninges or brain should always have preliminary mercury or potassium iodide if gumma is suspected. In secondary and tertiary cases, salvarsan and mercury courses should alternate. In tabes it is recommended to start with weekly small doses of salvarsan intravenously, mercury later and the combined intravenous and intraspinal treatment.

Treatment of tabes gives more marked results than paresis, although the results in the latter are encouraging.

#### THE PERSISTENCE OF ACTIVE LESIONS AND SPIROCHÆTÆ IN THE TISSUES OF CLINICALLY INACTIVE OR "CURED" SYPHILIS. A. S. WARTHIN, p. 508.

Warthin's article, written from a pathological point of view, takes a decidedly pessimistic view as to the absolute cure of syphilis and gives a brief report of autopsies to prove his statements. In many of the cases autopsied, there had been no suspicion of lues, in some there was a doubtful history and others had received no treatment.

The cases varied from seventy-eight to twenty-four years of age, and in those cases with luetic history, the infection varied from nine to forty or more years in duration. In general, syphilis was found on pathological examination in the cardio-vascular system and the testes in the great majority of cases and in many the spirochætæ were also demonstrated. The spirochætæ found were typical in some cases, in the latent forms especially were found irregular and atypical forms which he believes to be involution forms. He also states that he thinks latent syphilis "will be found to be the chief factor in the production of cardiovascular insufficiency and the cardiovascular-renal complex."

He thinks the present day "cures" only succeed in rendering the disease latent, leaving the organism to exist in the host in a state of symbiosis, these spirochætæ evidently having a very low virulence.

# HEREDITARY SYPHILIS IN THE LIGHT OF RECENT CLINICAL STUDIES. B. S. VEEDER, p. 522.

Veeder is inclined to disagree with the theory of the paternal transmission of syphilis directly to the offspring by means of the spirochætæ unless the organism undergoes some morphological changes with which we are at present unacquainted, although, on the other hand, seminal transmission does occur.

Of eighty-five mothers of syphilitic children, seventy-three gave a positive Wassermann, although seventy-four had no knowledge of infection and were clinically healthy. He believes the mother to be always infected in hereditary syphilis, though very frequently latent.

In three hundred and thirty-one pregnancies in one hundred syphilitic families, one hundred and thirty-one were abortions or still-births, two hundred living, while of the latter fifty-one died later. The waste, in comparison with the same number of families with contagious disease and those selected at random, ran from 22 per cent. for those selected at random, 26 per cent. with contagious disease and 48 per cent. for syphilitic.

He discusses, at length the manifestations of the disease in infants regarding foetal, infantile, late and latent forms, remarking on the uniformity of lesions in the infantile forms and the varied manifestations in the late cases. He found that there was a combination of general dystrophy with specific lesions as well, while his records show a far greater involvement of the central nervous system than is generally credited.

The Wassermann was positive in 92.6 per cent., doubtful in 1.3 per cent. and negative in 6.1 per cent. in 100 cases, although the whole series gave 98 per cent. positive.

He thinks hereditary lues responds more readily to treatment and uses various methods, including neosalvarsan and mercury.

(*Ibidem*, November, 1916, clii, No. 5.)

# A STUDY OF THE INVOLVEMENT OF THE BONES AND JOINTS IN EARLY SYPHILIS. UDO J. WILE AND F. C. SENEAR, p. 689.

It was found that the bones and joints showed far more frequent involvement than is credited, the apparently infrequent involvement being due to lack of complete and thorough examination. The deep, dull pain complained of was thought to be medullary in character, while sharper pain elicited on pressure was periosteal and more easily influenced by treatment than the former. The authors think there is no reason for considering an osteotropic strain of spirochætæ, differential diagnosis offering no difficulties, the most important point being pain during repose.

## ARCHIVES OF INTERNAL MEDICINE.

Abstracted by R. C. JAMIESON, M.D.

(October, 1916, xviii, No. 4.)

# THE ALBUMIN AND GLOBULIN CONTENT OF HUMAN BLOOD SERUM. ALBERT H. ROWE, p. 455.

Rowe found that in normal serum, albumin varied between 4.6 per cent. to 6.7 per cent., globulin, 1.2 per cent. to 2.3 per cent., total protein, 6.5 per cent., to 8.2 per cent.

With regard to syphilis and the Wassermann reaction, he states that the globulin is definitely increased but that his experiments would lead to the conclusion that the Wassermann reaction is not due to a quantitative increase in the serum globulin.

THE BLOOD PLATELETS IN HÆMOPHILIA. G. R. MINOT AND ROGER I. LEE, p. 474.

This work was done with two cases of hæmophilia and it was found that if a normal amount of normal platelets were added to hæmophilic plasma, the coagulation time became nearly normal, while on the other hand, hæmophilic platelets in seventy-five times the normal quantity shortened the time but did not approach normal.

The authors are inclined to believe that the active coagulation principle of the tissue juice is partly or wholly derived from the blood platelets and conclude that in hæmophilia there is slow availability of platelets for coagulation, due to an hereditary defect in the blood platelets.

METABOLISM STUDIES OF ANGIONEUROTIC ŒDEMA. T. G. MILLER AND O. H. P. PEPPER, p. 551.

The case studied was that of a woman with transient attacks of œdema with, sometimes, convulsions.

The authors conclude from their work that the attacks of œdema were associated with nitrogen retention, the excretion of acid bodies not being altered. Sodium chloride excretion is diminished preceding the swelling and increased after it, but the convulsions were not associated with the nitrogen balance. The œdema appeared to be influenced favorably by a low chloride intake but the convulsions were unaffected.

(*Ibidem*, November, 1916, xviii, No. 5.)

THE RELATION OF RECURRENT ATTACKS OF PELLAGRA TO RACE, SEX AND AGE OF THE PATIENT AND TO TREATMENT OF THE DISEASE. J. F. SILER, P. E. GARRISON, W. J. MACNEAL, p. 652.

From a study of the compiled statistics it was found that both sexes and both races were about equally subject to recurrence, the death rate, however, in recurrent attacks being 12.3 per cent. as compared with 16.2 per cent. in the initial attack. The death rate was higher in both races for males, while white females with an initial attack before the age of ten years, showed the least tendency to recurrence. Children also showed greater improvement and recovery than adults, recurrence in young women being frequent even after one or more years of freedom from the disease, the highest percentage of recurrence being in white males over 44 years old. Resistance to recurrence is definite about puberty and remains longer in males than in females.

Diet and hygiene have hastened recovery from acute attacks but recurrence has been the rule in the majority of cases, although a severe attack seems to lessen the liability of recurrence. Other conditions should be treated as required and general tonic treatment should be continued for at least a year after recovery from an acute attack.

## JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

Abstracted by R. C. JAMIESON, M.D.

(Sept. 1, 1916, xix, No. 17.)

DERMATITIS DUE TO THE SECRETION OF A BEETLE IN BRITISH EAST AFRICA. PHILIP H. ROSS, p. 202.

The beetle causing the dermatitis belongs to the genus *Paiderus* and is 1 cm. long by about 2 mm. broad. The fluid causing the inflammation is apparently

excreted only when the beetle is irritated. The lesions occur on exposed surfaces, are painful and appear as a bright vesicular streak or patch, as though some strong acid had been applied.

(*Ibidem*, Feb. 15, 1916, xix, No. 4.)

NOTE ON DERMATITIS CUPOLIFORMIS. ALDO CASTELLANI, p. 41.

The author describes a tropical ecthyma which occurs on the legs and feet of Europeans, and which is due to a "*Streptococcus tropicalis*." The lesions begin as small spots, become deeper red, infiltrated, elevated and break down without pustulation to form an ulcer with undermined edges. Treatment, locally, is of slight use but autogenous vaccines rapidly heal the lesions.

(*Ibidem*, Apr. 15, 1916, xix, No. 8.)

MADURA FOOT IN TRINIDAD. R. SEHEULT, p. 91.

The case is reported on account of its rarity in the New World—none having been reported in the British West Indies. The disease occurred in an East Indian and seemingly followed an injury sustained in 1908. Three years after injury, lesions appeared and progressed typically with sinus formation, pus and dark, roe-like granules. Amputation was successfully performed, microscopical examination showing filaments of *Streptothrix mycetomi*.

BLASTOMYCOSIS (?) IN CENTRAL AFRICA. A. YALE MASSEY, p. 79.

The author cites twelve cases observed in four years, closely resembling blastomycosis and on which salvarsan had no effect. The photographs show the skin over the tibia affected with nodular protuberances with numerous discharging sinuses. One case had lesions on the neck and in the submaxillary region. Curettings examined in Europe were stated to be of mycetome origin but no cultures were made to prove the diagnosis.

BULLETIN OF THE JOHNS HOPKINS HOSPITAL.

(August, 1916, xxvii, No. 306.)

Abstracted by R. C. JAMIESON, M.D.

A TREATMENT FOR PRURITUS ANI. H. B. STONE, p. 242.

This method was used in seventeen cases, in two years, without much pain accompanying the injection and only a slight soreness, followed by numbness. Itching stops at once, anaesthesia of the area supervenes and the sphincteric action is unimpaired if the technique is not faulty. The skin takes on a healthier tone and itching is allayed indefinitely—eight months being the earliest recurrence.

The technique is as follows: the itching area is injected with 1 per cent. novocain or quinine and urea hydrochloride, 95 per cent. alcohol is then injected *under* the skin, enough being used to thoroughly underlie the skin. Too deep an injection may cause paralysis of the sphincter, too superficial will cause sloughing.



## ARCHIVES OF PEDIATRICS.

(March, 1915, xxii, No. 3.)

Abstracted by HARVEY PARKER TOWLE, M.D.

## THE DIETETICS OF ECZEMA. GEORGE D. LYMAN, p. 175.

"It has long been decided that eczema is not purely an acute or chronic inflammation of the skin. If it were it would respond to local treatment alone. . . . So important a feature is diet in the treatment that it is a question whether eczema should be handled by the dermatologist or the pediatrician. At least they should coöperate, as a proper regulation of the diet accelerates a healing of the local condition." These quotations fairly present the basis of the author's thesis.

Lyman divides eczema into two groups; one, in which the patient is over-nourished and overweight, but thriving, in whom signs of eczema have existed since birth; and a second, in which eczema seems to have been provoked by disturbances of the intestines.

He sums up the results of dietetic treatment somewhat as follows. The variety of claims is great. In some cases it is enough for cure to reduce the quantity of food; in some, it is necessary to increase it; and, in some, a complete change of diet is required.

In uncomplicated cases of eczema, the percentage of fats and carbohydrates seem to be at fault. In some cases, the salt assimilation is altered. In the more chronic cases, there is often a disturbed protein digestion or a secondary intestinal infection. In still other cases, a diet rich in vegetables and carbohydrates and poor milk is necessary to cure.

Of several things, however, we are certain—that local treatment alone or dietary treatment alone are unsuccessful. It is necessary to join forces, for the dermatologist and the pediatrician to proceed hand in hand; that in all cases of eczema it is necessary to make a thorough, complete examination of the stools for signs of indigestion, and that above all else it is necessary to know and study your baby.

(Ibidem, May, 1915, xxxii, No. 5.)

## REPORT OF THE TWENTY-SEVENTH ANNUAL MEETING OF THE AMERICAN PEDIATRIC SOCIETY. Lakewood, N. J., May 24, 25 and 26, 1915, p. 333.

This number of the Archives contains a full report of the three days' proceedings of the American Pediatric Society. Although written from the pediatrician's point of view, several papers were of considerable dermatological importance. As, however, they will undoubtedly be published in full, elsewhere, it is not here advisable to give more than their outlines and a résumé of the discussions whose value was often equal to that of the paper.

Dr. Royal Storrs Haynes, of New York, contributed a paper on Ductless Gland Therapy (p. 344), whose interest to dermatologists, while indirect, is nevertheless real. The paper resulted from observation of a case in which the earlier symptoms seemed to indicate thyroid deficiency and the later to indicate that there was also the complication of a deficiency of the pars intermedia of the pituitary. Dr. Herman drew the conclusion that Dr. Haynes' case supported his contentions that, frequently, more than one of the glands was affected and that there existed a certain correlation between the so-called ductless glands. On this basis, the combined treatment of extracts of the thyroid, suprarenal and pituitary glands was better than thyroid treatment alone.

Because of the relationship which disturbances of the digestive metabolism

bear to the production of infantile eczema and of various dermatoses accompanied by signs of systemic vasomotor poisoning, the dermatologist will find suggestive the report, by Dr. E. W. Saunders and Dr. T. Wistar White of St. Louis (p. 348), of twelve infantile cases of milk idiosyncrasy.

Of more immediate interest was a paper by Dr. Oscar M. Schloss, of New York (p. 349), on Allergy to Common Foods, based on the study of 34 cases. It was unusual to find idiosyncrasy limited to a single food. Most often it was manifested towards one or more members of a group of foods comprising milk, egg, beef, horse protein, wheat, rice and other cereals and foodstuffs. Among the most frequent symptoms were urticaria and angioneurotic œdema, either appearing immediately in the labial, buccal and pharyngeal membranes or being delayed from one-half to three hours before manifesting symptoms involving the whole body.

Dr. Schloss regards the relationship of eczema to food allergy as very interesting. He had seen 18 cases of severe eczema in every one of which there was a cutaneous reaction to the proteins of one or several foods. *"In many instances, the withdrawal of the food to which the most striking disturbances were due, was not followed by a disappearance of the eczema, but since the cutaneous reaction was practically always manifested toward several foods, it was quite possible that the eczema might be due to some unsuspected food substance."*

A second group of cases manifested the effects of food toxæmia by asthma or asthmatic bronchitis. In a third group, the symptoms were gastro-enteric and, in a fourth, eosinophilia was the characteristic sign.

Wherever complete tests had been made, the proteid food constituent was always found to be the guilty one. As a result of several conditions, the cutaneous test was sometimes lacking. Dr. Schloss has also noticed that the immunity secured by treatment was apparently not permanent. For instance, patients once immunized to egg did not remain immune unless comparatively large amounts of egg were administered continuously. Moreover, certain anti-anaphylactic experiments seemed to indicate that, even in the face of continuous administration, there might be cycles of anaphylactic disturbances.

(*Ibidem*, August, 1915, xxxii, No. 8.)

#### RELATIONSHIP OF SYPHILIS TO CHOREA OF SYDENHAM. HENRY KOPLIK, p. 561.

Koplik undertook to satisfy himself as to the truth or falsity of the growing theory of an ætiological connection between syphilis and chorea. He comments briefly upon the cases which had been used to support the theory and decides that the diagnosis was wrong in most instances. The cases were not the true chorea of Sydenham.

Koplik admitted 11 cases of chorea to his hospital service. In 10, the Wassermann test was made. Eight tests were negative and in 2 the reaction failed but was not positive. No case had the stigmata of syphilis nor did any have a history of syphilis in the family.

A comparatively large number of cases of chorea have been reported in which the positive Wassermann was considered justification for a diagnosis of syphilis. Koplik remarks, "There is no reason why, had I subjected a large number of cases to the Wassermann test, I should not eventually meet cases in which it might be established that syphilis was present, either in the form of some lesion, or with the Wassermann reaction. For a child affected with syphilis might contract chorea just as readily as another, yet that would hardly prove the rule, to my mind."

Koplik treated 9 cases with neosalvarsan. The results failed completely to confirm the claims of wonderful effectiveness.

Koplik's final conclusion is, "I do not think that we have in salvarsan an agent of any value above what has hitherto been in vogue in the treatment of chorea minor, nor do I feel that we are warranted in tracing any relationship between the chorea of Sydenham and hereditary or acquired syphilis."

(*Ibidem*, September, 1915, xxxii, No. 9.)

PROPHYLACTIC VACCINATION FOR VARICELLA. SOPHIE RABINOFF, p. 651.

During an epidemic of varicella in the wards of the Hebrew Infant Asylum during the winter just passed, the opportunity presented itself to try out prophylactic vaccination. Inoculations of this kind have been described by Kling, of Stockholm, and were repeated later by Handrick.

In pursuing his work, Kling used the following technique: The vesicle of a fresh case of varicella was used as the source of the virus. This was pierced with a "vaccination lancet." Several superficial skin punctures were made for the purpose of vaccination, taking care not to draw blood. After making three punctures, the lancet was introduced into a fresh vesicle and the inoculations carried to a total of six. Kling emphasizes the necessity of obtaining the virus from a case in the early stage of the disease, when the contents of the vesicle are clear and the vesicle itself is surrounded by a slight red areola. In his experience, only 5 per cent. of the vaccinated cases showed reaction at all the points of inoculation although, in every case, at least one point showed some reaction. This appeared about the eighth day in the form of a vesicle or a group of vesicles, which very soon dried up, leaving a slight scar.

There were 95 children in his institution. Among the 64 unvaccinated cases; about two-thirds developed varicella, whereas, among the 31 vaccinated, only one showed a generalized distribution.

The method Rabinoff used was similar to that of Kling, except that, instead of multiple punctures, small scarifications were made on the arm to be vaccinated. In the first group of cases vaccinated, comprising about 50 children, only one scarification, about  $\frac{1}{8}$  inch long, was made, with the result that the local reaction was either very slight or did not occur at all. In the subsequent group, comprising about 60 children, three or four scarifications were made. In the latter series, a slight reaction occurred which could not be called typical, except in one instance. Three scarifications were made in this particular case. About the tenth day there appeared a slight areola at one point of scarification. This went, in regular sequence through all the stages of papule, vesicle, pustule and crust and healed after the manner of an ordinary vaccination lesion. In none of the vaccinated cases was there any evidence of systemic disturbance.

Among 142 susceptible children, 114, about 75 per cent., developed varicella. In the group of 76 vaccinated children, there were only six cases, or about 8 per cent. of the total number. Of these 6 cases, 2 cases developed on the day following vaccination; 2, seven days later; 1, nine days; and the last, ten days later. In other words, all the cases among the vaccinated children developed inside the incubation period of the disease, which is about sixteen days.

(*Ibidem*, October, 1915, xxxii, No. 10.)

SCARLATINA: MORBIDITY AND CASE FATALITY BY LOCALITY, SEX, AGE AND SEASON. (Based on study of over a million cases.)  
HENRY H. DONNALLY, p. 767.

Before the Pediatric Section of the New York Academy of Medicine, Dr. Donnally reported the results of his analysis of over 7,000,000 reports from



widely separated sources. After rejecting the uncomplete records, about 2,000,000 remained. The conclusions may be curtly summarized as follows:

Certain families possess a peculiar susceptibility to scarlet fever.

Individual susceptibility varies. Fat, flabby, overnourished children suffer most severely.

In approximately 2,000,000 patients, the case fatality was 5.25 per cent. and the morbidity rate, 3.9 per cent.

The number of cases differed greatly, not only in different countries and cities, but also in different parts of the same locality.

Everywhere, scarlet fever is endemic.

The morbidity rates showed passing fluctuations but no striking reductions.

Notwithstanding the lack of specific treatment, the case fatality has shown a pronounced and consistent decline during the past half century.

January and December usually have the greatest number of cases and August and September the smallest, but the height of an epidemic may occur at any season.

The relation of male and female cases is almost the same as the ratio of males to females in the total population. During the first five years of life, the males are the more susceptible and, from five to fifteen, the females. The number of deaths is both relatively and absolutely greater among males.

Nearly 50 per cent. of the total cases occurred between three and seven years, the number of cases being about equally distributed through these years. Under one year and over fifteen, susceptibility is about 1 per cent.

Few adults, though exposed, become infected.

Ninety per cent. of the deaths occur under ten years of age. Between ten and fourteen years, the rate drops to 1 per cent.

#### SCARLATINA: SOME UNUSUAL AND SEVERE TYPES. HENRY M. BERG, D. 765.

In a paper delivered before the Section of Pediatrics, N. Y. Academy of Medicine, Dr. Berg classified the severe types of scarlatina as, (1) severe toxic; (2) toxic hæmorrhagic; and, (3) septic.

(1) The severe toxic type is characterized by persistently high temperature, with no attempt at resolution; by a rash, either very severe or absent, except for a collar; by a punctate eruption which is blue or almost purple, showing white upon compression. The prognosis is uncertain although recovery may occur.

(2) The toxic hæmorrhagic type is differentiated by its cerebral symptoms, resembling meningitis, of which coma is the chief. The other diagnostic phenomena of meningitis are not constant. The urine contains albumin but casts are rare without hæmorrhage. A few cases have a mild adenitis and a punctate rash. The characteristic skin eruption is petechial and is accompanied by hæmorrhages into the mucous membranes and the internal organs. The prognosis is invariably fatal.

(3) The septic type is characterized by a severe scarlatina plus the influence of a pus organism. The symptoms somewhat resemble diphtheria because of the angina. Unlike the toxic cases, vomiting is not persistent, rarely occurring more than once. The temperature is high from the beginning and follows the course of ordinary septic fevers. One of the most important signs is enlargement of the glands at the angles of the jaw. When extensive, there results the condition known as the Cardinal's neck. Different organisms may cause the angina but, in three-fourths of the cases, it is a streptococcus. The prognosis of the septic form is better than that of the toxic.



## BOSTON MEDICAL AND SURGICAL JOURNAL.

Abstracted by OSCAR L. LEVIN, M.D.

(Nov. 9, 1916, clxxiv, No. 19.)

## SYPHILIS OF THE LUNGS. NATHANIEL K. WOOD, p. 677.

In the eleven cases reported by the author there were signs and symptoms of pulmonary disease, no tubercle bacilli in the sputum, and the von Pirquet tests were negative. A history of lues was obtained in each case. The sera showed positive Wassermann reactions and the X-rays revealed syphilitic changes in the bones. All the patients improved after a course of mixed treatment. In view of the fact that autopsies rarely show syphilitic involvement of the lungs, the author hesitates to state positively that these are cases of syphilitic pulmonary disease, but suggests a more thorough search for pathological corroboration when clinical observation and therapeutic tests point toward lues.

## CONTROL OF SCARLET FEVER. D. M. LEWIS, p. 682.

The control of scarlet fever depends upon the supervision of reported cases and carriers, who are responsible for the missed as well as the reported ones. Carriers are divided into two groups: those individuals having ear or gland discharges at the end of convalescence, and those who have had the disease previously. Both groups must show evidence of buccal-pharyngeal inflammation, characteristic of scarlet fever, to be infective. The author states that he has abolished recurrent cases, made infrequent secondary cases, and lessened reported cases by demonstration and isolation of carriers.

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(*Ibidem*, November 16, 1916, clxxv, No. 20.)

## MEASLES AND THE PUBLIC HEALTH. EDWIN H. PLACE, p. 704.

The primary lesion of scarlet fever occurs usually in, or in the neighborhood of, the tonsils and from there may spread to other parts, even to the lungs and œsophagus. The author infers from his observations that scarlet fever is caused by a strongly gram-positive bacillus which is less virulent than the diphtheria bacillus, but which practically invades the same localities. The toxine causes necrosis and desquamation of the covering epithelium and leads to an exudation of serum and polymorphonuclear leucocytes. Because of the slight formation of fibrin the primary lesions are inconspicuous and easily overlooked. The bacillus of scarlet fever dies quickly in the lesions and it is therefore difficult or impossible to demonstrate it after two or three days, but it opens the way for streptococcus invasion and seems to favor its growth.

The bacillus of scarlet fever may be obtained in smears or cultures. The organism is a strongly gram-positive bacillus, staining well with ordinary dyes and showing a tendency to irregularity of staining in lightly stained preparations. This irregularity of stain is also noted in too strongly decolorized preparations. No polar bodies are present. It is smaller than the diphtheria bacillus and varies from coccus-like to large bacillary forms.

The bacilli are facultative æcobes, and grow best anærobically upon serum-glycerin (3 per cent.)—dextrose (5 per cent.)—agar.

SCARLET FEVER. CHARLES V. CHAPIN, p. 715.

ÆTIOLOGY OF SCARLET FEVER. F. B. MALLORY, p. 713.

## MEDICAL TIMES.

Abstracted by OSCAR L. LEVIN, M.D.

(November, 1916, xliv, No. 11.)

THE PROGNOSIS OF SYPHILIS. D. A. SINCLAIR, p. 328.

The prognosis of syphilis depends upon the following factors: 1. The time from the date of the infection; 2. The kind and amount of treatment; 3. The parts at present affected by the disease; 4. The Wassermann test; 5. That from three to five years are required for a complete cure.

## NEW YORK STATE JOURNAL OF MEDICINE.

Abstracted by OSCAR L. LEVIN, M.D.

(November, 1916, xvi, No. 11.)

ECZEMA IN INFANTS AND YOUNG CHILDREN. CHARLES GILMORE KERLEY, p. 523.

An article dealing with dietetic régime.

## MEDICAL RECORD.

(Nov. 4, 1916, xc, No. 19.)

Abstracted by W. H. GUY, M.D.

ANAPHYLAXIS TO MERCURY—WITH REPORT OF A CASE. M. ZIGLER, p. 805.

(*Ibidem*, Dec. 2, 1916, xc, No. 23.)

LUPUS ERYTHEMATOSUS AND TUBERCULOSIS. LOUIS B. MOUNT, p. 983.

A survey of the literature with particular reference to the question of ætiology. Contrasted views of various authors are noted. Particular attention is directed to the attempts to clarify the subject by animal inoculations and bacteriological investigations. The author states that the work of Bloch and Fuchs gives grounds for their belief that lupus erythematosus of the chronic type may be due to an infection with the tubercle bacillus, perhaps of lowered virulence or of another variety, upon a soil which in the majority of cases reacts in an atypical manner.

(*Ibidem*, Dec. 9, 1916, xc, No. 24.)

THE SCOPE AND TECHNIQUE OF X-RAY THERAPY. ISAAC LEVIN, p. 1015.

In an introductory manner the author speaks of the relation that X-ray bears to the spectrum. It is noted that light is a necessity to the animal

organism; that therapeutic measures generally to be effective must affect the metabolism of the cell; that physical methods of therapy are viewed with distrust; and that therapy, whether chemical or by physical means as typified by the X-ray, produces its effects by bringing about changes in cellular metabolism. A comparison is drawn between the action of the arsenicals and X-ray—they act in a similar manner, in that in small amounts they stimulate cell metabolism and growth, and in that in large doses they have a selective action for embryonic or highly specialized cells.

Physically, X-rays are considered analogous to light in that they move in straight lines, they traverse space freely, they act upon photographic plates, excite certain materials to phosphorescence and bring about ionization of gas; differing, however, in that they are not deflected by prisms, and in that the wave lengths are infinitely shorter. X-ray acts upon a substance by primary rays and to a less extent by secondary rays from the tube and these in turn set up secondary rays between ions, thus producing changes in metabolism. Action of the ray depends on penetration, absorption, selective action, etc., and it is only when the wave length is correct that selective action takes place and one obtains a therapeutic effect. The biological effect of the X-rays are analogous to light rays in that they may produce erythema, burns, bronzing, etc. The effect varies with hardness or softness of rays, which depend upon relative wave lengths. Inasmuch as the action of the ray is most marked on cells of the embryonal type, the therapeutic effect is marked in malignant tumors where vacuolization of protoplasm, pycnosis of nuclei and necrosis of cells, accompanied by round cell infiltration and followed by secondary fibrosis, is noted. The effect is similar in the infective granulomata.

As to technique, the author speaks particularly of the Coolidge tube. The tube is described in detail and is recommended because of greater output and greater uniformity of penetrations. Experimental studies comparing the Coolidge with other tubes showed greater efficiency of the former. Cross firing to obtain better deep therapy is described. The author's technique, which is of the indirect type, is described. A chart is appended showing certain of the diseases treated successfully by the X-ray, as follows:

(1.) Inhibiting Cell Proliferation.

Keloid, angioma, verrucae, uterine fibroid, prostatic hypertrophy, carcinomata, sarcoma, the lymphomata and granulomata.

(2.) Inhibiting Cell Functions.

Metropathia, uterine fibroid, exophthalmic goitre, acromegaly, leucæmia and status lymphaticus.

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## NEW YORK MEDICAL JOURNAL.

(Nov. 4, 1916, civ, No. 19.)

Abstracted by W. H. Gry, M.D.

### PRIMARY SYPHILIS OF THE RECTUM. W. E. JOST AND R. B. H. GRADWOHL, p. 893.

Cephalic chancres constitute perhaps seventy-five per cent. of extragenital chancres. Most of them occur upon the lips, indicating that transmission is by kissing. As for anal chancres, they are observed in women more than in men, usually a *praepostera venere*: in men this is always the case. They are classified as anal, perianal and rectal. It is to the last class that the case reported belongs. The perianal chancre resembles a fissure in appearance. The edges are everted and the base is indurated. More than anything we

know, its appearance may be compared to an anal fissure that has been cauterized. The anal chancre may be intraanal and may not be seen unless the anal opening is stretched. According to Fournier, it appears as a mere red erosion, composed of two segments which fold upon each other like the leaves of a book. The true rectal chancre, which is very rare, is situated three to four cm. above the sphincter. Bogrow observed one as high up as eight cm. Often it is discovered only in a patient with already pronounced secondaries, where, after searching in vain for an initial lesion, we are told by the patient that he has had pain upon defæcation and that the discharges are colored red from blood. By speculum examination the lesion is then discovered.

It has been noted that there is an accompanying lymphadenopathy in these cases in the external inguinal glands, as was the case with the authors' patient. It must be remembered that inguinal gland enlargement occurs in these cases through the anastomoses between the lymphatics in the concavity of the sacrum and those in the groin. A case is reported.

(*Ibidem*, Nov. 18, 1916, civ, No. 21.)

#### TESTICULAR SYPHILIS. M. ZIGLER, p. 998.

Three cases are reported, two of which were gummata. Attention is called to the comparative rarity of testicular gumma and also to the fact that the symptoms closely simulate those of tuberculosis. The paper urges the Wassermann as a check to diagnosis in cases of this type and warns against errors in diagnosis.

(*Ibidem*, Dec. 30, 1916, civ, No. 27.)

#### ECZEMA IN CHILDREN. GEORGE W. CRARY, p. 1274.

This paper deals with the causes of eczema in infants, with particular reference to the dietary origin of certain cases and the author outlines his treatment.

#### A NEW METHOD FOR INTRASPINOUS TREATMENT OF NEURAL SYPHILIS WITH MERCURY. MAURICE F. LAUTMAN, p. 1281.

The author's method comprises pushing mercury to the point of tolerance, obtaining the blood serum, reinforcing this by addition of a solution of mercuric benzoate in normal saline, removal of as much spinal fluid as can be obtained and injecting the serum-mercury preparation, the total amount injected being less than that removed, so as to create a negative pressure within the dural cavity.

Excellent results are reported.

#### THE ROLE OF SYPHILIS IN THE INSANE NEGRO. LOUIS WENDER, p. 1286.

Report of findings in 106 cases admitted to the government hospital for insane at Washington, D. C., of which fifty-two were syphilitic.

### PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

(June, 1916, ix, No. 8.)

Abstracted by W. H. GUY, M.D.

#### CASE OF PARAKERATOSIS VARIEGATA OF THE TYPE DESCRIBED BY JULIUSBERG AS "PITYRIASIS LICHENOIDES CHRONICA." E. G. GRAHAM LITTLE, p. 139.

Notable in this report were the sudden onset simulating measles, later becoming a universal pityriasis with points of accentuated redness as com-



pared with the bluish red tone, constituting indefinite maculo-papules and a shadowy network. Treatment had no effect on the course of the disease. The histology was not characteristic.

LICHEN SCROFULOSORUM. E. G. GRAHAM LITTLE, p. 142.

Report of a typical case seemingly due to injections of tuberculin, administered to a patient suffering from scrofuloderma.

ACUTE DISSEMINATED TUBERCULOSIS CUTIS. E. G. GRAHAM LITTLE, p. 144.

Report of a case with sudden onset, in an infant aged seven months, suffering from glandular tuberculosis. The eruption comprised closely set bluish nodular lesions limited to the lower extremities. The histology confirmed the diagnosis. The eruption practically disappeared upon surgical removal of the glands.

TERTIARY SYPHILIS. GEORGE PERNET, p. 146.

A case treated by intramine injections with improvement in clinical symptoms.

MYCOSIS FUNGOIDES. J. J. PRINGLE, p. 147.

A case in which the diagnosis was obscured or even made doubtful by the presence of a positive Wassermann and some plaques resembling parapsoriasis. One large granulomatous patch had been improved by a full unfiltered pastille dose of X-ray. In the discussion the arseno-benzol compounds are mentioned as being distinctly harmful in this disease.

ASPHYXIA RETICULARIS. DUDLEY CORBETT, p. 152.

Report of a case diagnosed as above with a second choice of "livedo annularis." During discussion, Drs. Samuel, MacLeod and others suggested a diagnosis of reticulated lichen planus.

CARCINOMA OF THE FACE. J. J. PRINGLE, p. 156.

Report of a case occurring in the course of xeroderma pigmentosa treated by a massive dose of radium, with marked improvement.

ACNE. J. H. SEQUEIRA, p. 156.

Report of a case of unusual severity.

URTICARIA PIGMENTOSA. GEORGE PERNET, p. 157.

A typical case, exhibiting the characteristic pigmented spots in an artificially fed infant, which improved upon correction of dietary errors.

KERATODERMIA BLENORRHAGICA. E. G. GRAHAM LITTLE AND P. A. HAYNE, p. 159.

Report of a case with formation of hard, waxy, brownish scabs in a cachectic patient suffering from a urethritis.

CHEMOTHERAPY. J. E. R. McDONAGH, p. 165.

One of a series of articles discussing the various phases of this subject with case reports attached, illustrating the points made.

(*Ibidem*, July, 1916, ix, No. 9.)

A NEW TEST FOR SYPHILIS. J. E. R. McDONAGH, p. 192.

A preliminary report of a precipitation test for syphilis.

PITYRIASIS RUBRA PILARIS. W. KNOWSLEY SIBLEY, p. 193.  
p. 222.

Report of a case improving under influence of X-ray.

DARIER'S DISEASE. E. G. GRAHAM LITTLE, p. 196.

A case is presented with typical keratotic excrescences which began on the forehead, scalp, chin and neck, spreading over the chest, abdomen and back. The microscope gave the classical picture.

LICHEN PLANUS HYPERTROPHICUS. H. C. SAMUEL, p. 200.

Report of a case.

DERMATITIS HERPETIFORMIS. ALFRED EDDOWES, p. 202.

A case with unusual distribution and in which the diagnosis was questioned during discussion.

XANTHOMA TUBEROSUM. E. G. GRAHAM LITTLE, p. 209.

A case report.

TUBERCULOUS DISEASE OF THE FACE. J. G. STOWERS, p. 211.

An unusual case of lupus vulgaris of five years' standing, in a girl aged 18½ years.

DERMATITIS HERPETIFORMIS. GEORGE PERNET, p. 213.

Presentation of a case in which the diagnosis was questionable.

EXTENSIVE EXUBERANT LUPUS VULGARIS OF THE LEG, ORIGINATING FROM A TUBERCULOUS ABSCESS. GEORGE PERNET, p. 214.

MULTIFORM LUPUS VULGARIS FOLLOWING MEASLES WITH SPONTANEOUS INVOLUTION OF SOME OF THE LESIONS. GEORGE PERNET, p. 215.

URTICARIA PIGMENTOSA. pp. 215 and 216.

Two cases reported by W. K. Sibley and Graham Little respectively.

LICHEN OBTUSUS CORNEUS. W. KNOWSLEY SIBLEY, p. 218.

Numerous discrete, disseminated, whitish, dry, hard, round, dome shaped nodules, almost cartilaginous in consistence scattered over the dorsum of the hands and extensor surfaces of the forearms, knees, feet and ankles. The lesions were pea sized with scratched tops and central crateriform depression, sometimes filled with hæmorrhagic plugs. Histologically, the following features were noted: hyperkeratosis of the stratum corneum, thickening of the stratum granulosum and rete with elongated pegs. Only a small portion of the corium was in the specimen, but it contained dilated blood vessels and an increase of connective tissue and spindle cells. In the discussion, Drs. Little, MacLeod and Adamson considered the case an unusual case of lichen planus. Dr. Adamson called attention to the marked resemblance of this case to the one reported by C. J. White in the *Journal of Cutaneous Diseases*, in 1907.

KAPOSI'S MULTIPLE PIGMENTARY SARCOMA. W. KNOWSLEY SIBLEY, p. 222.

BULLETIN OF THE DEPARTMENT OF PUBLIC CHARITIES  
OF NEW YORK CITY.

(June, 1916, i, No. 1.)

Abstracted by W. H. GUY, M.D.

## HUMAN GLANDERS. N. B. POTTER, p. 5.

Report of three cases, one of which was unsuccessfully treated with autogenous vaccine.

## INTRASPINAL ADMINISTRATION OF MERCURIALIZED SERUM. LIVINGSTON HUNT, p. 76.

Forty-five cases were treated, some with mercuric chloride, the others with sublatin (ethelendianin-mercury sulphate). The cases treated comprised tabes, general paresis, cerebrospinal syphilis, taboparesis, clinical tabes and syphilitic hemiplegia. The technique is described in detail and the author concludes as the result of this work that:

1. The reaction from mercuric chloride or sublatin in no way differed from the reaction which followed the administration of salvarsan.

2. The sublatin did not seem to give the same reduction in the cell count or clinical improvement as did the mercuric chloride.

3. No ill results followed these injections. The three deaths could easily be accounted for, as the patients were practically moribund at the time of the treatment, and were given the injections as a last resort.

4. The patients with tabes and cerebrospinal syphilis were helped more than any others.

5. Such improvement as did occur was evident in the feelings of the patient, in the sphincter control, in the pains, in the gait and in the serology. There was no improvement in the reflexes.

6. Such intraspinal treatment can be given only at intervals of two weeks, because a cell count does not fall sooner.

7. The action obtained was one in which the cell count was first greatly increased and then diminished.

8. The cell count and the globulin yielded much sooner than did the Wassermann.

## UNITED STATES PUBLIC HEALTH SERVICE.

(Nov. 17, 1916.)

Abstracted by W. H. GUY, M.D.

THE TRANSMISSIBILITY OF PELLAGRA. EXPERIMENTAL ATTEMPTS  
AT TRANSMISSION TO THE HUMAN SUBJECT. JOSEPH GOLDBERGER, p. 3159.

Sixteen volunteers were subjected to experiment. With one exception, all were men and varied in age from 26 to 42 years. No restraints were imposed on their customary habits or activities.

Seventeen cases of pellagra of various types and of different grades of severity furnished some one or more of the experimental materials.

The materials were blood, nasopharyngeal secretions, epidermal scales from pellagrous lesions, urine and feces. Blood was furnished by 4 of the cases.

nasopharyngeal secretions by 4, epidermal scales by 5, and urine or fæces by 16, of whom 10 furnished both urine and fæces, 3 urine without fæces, and 3 fæces without urine.

Blood was administered by intramuscular or subcutaneous injection; secretions by application to the mucosa of the nose and nasopharynx; scales and excreta by mouth.

Both urine and fæces were ingested by 15 of the volunteers, 5 of whom also took blood, secretions and scales.

The experiments were performed at four widely separated localities (Washington, D. C.; Columbia, S. C.; Spartanburg, S. C., and New Orleans, La.), at which different groups of the volunteers were assembled.

Observation has been maintained by association with a majority of the volunteers and by visits of inspection, supplemented by reports from the volunteers themselves, 13 of whom are physicians, and by reports from other medical officers of the service with whom they are associated. During a period of between five and seven months none has developed evidence justifying a diagnosis of pellagra.

These experiments furnish no support for the view that pellagra is a communicable disease; they materially strengthen the conclusion that it is a disease essentially of dietary origin, brought about by a faulty, probably "deficient" diet.



## OBITUARY

## THOMAS COLCOTT FOX

IN the death of Thomas Colcott Fox, which occurred on April 11, 1916, in his 68th year, British Dermatology suffered the loss of one of its most earnest and talented students.

He was the son of a country physician and the country boy's love for outdoors remained with him through life. He was an enthusiastic all around sportsman; cricket of course, skating, and in later years golf; and in all these he excelled. He was educated at Cambridge and took his medical degree at London University in 1876. It was no doubt the brilliant career of his brother, Tilbury Fox, that attracted him to Dermatology, and he was fortunate in securing an appointment early in life as Dermatologist to Westminster Hospital, a post which he held to the end of his life. He was also, for various periods, Physician to the Victoria Hospital for Children, to the Skin Department of Paddington Green Hospital for Children, and Visiting Dermatologist to the Ringworm Schools of the Metropolitan Asylums Board. The fruits of his wide experience in the dermatoses of childhood have appeared in numerous contributions to our science.

All of Colcott Fox's work as a dermatologist is characterized by an unusual degree of thoroughness and exhibits an extraordinary familiarity with the literature of his subject, rare powers of observation, and keen critical judgment. He was not a voluminous writer; he wrote no text-book, his name is not associated with any startling discoveries; but, as his friend Pringle says of him, "There is no doubt that Colcott Fox influenced British dermatology more powerfully than any of his contemporaries and all our most prominent dermatologists of the present day must be included among his pupils."

In the forty years of his activity—his name appears with that of his brother as part author of the *Epitome of Skin Diseases* in 1876—he made an enviable record of achievement. He was the first to describe lymphangioma circumscriptum, he wrote the first description of the disease now known as angiokeratoma and his cases of "ringed eruption" were the first recorded cases of the disease now known as granuloma annulare. His paper on urticaria in infancy and childhood was a masterpiece of clinical research. In addition to purely original work he was active in presenting to his English-speaking colleagues many forms of skin disease of which they had but little knowledge. Among these may be mentioned pityriasis rosea, the acneiform tuberculides and the erythema induratum of Bazin. It is characteristic of Fox that though the science of bacteriology was not yet born when he received his degree in medicine, and microscopy almost unknown, he developed and maintained throughout his life an active interest in these subjects. His studies on the ringworm fungi are among the most valuable in the English language. For many years he and Pringle acted as Secretaries of the London Dermatological Society, founded in 1882, and merged with the Royal Society of Medicine in 1907—and in the latter year he published a series of selected cases from the wealth of material that had been exhibited before the Society. He was a corresponding member of the American Dermatological Association.

To the circle of his friends his passing leaves a painful wound. He was one of the most lovable of men. Modest and retiring, almost shy, he was the most generous of friends. He probably never in his life harbored an unkind thought of anyone; the one object of his quiet scorn was sham or untruthfulness in any form. His kindly appreciation and generous recognition of the efforts of younger men served as the best stimulus to their work. His contributions to our science and his influence on British Dermatology, may well constitute his monument.

—S. P.

## WILLIAM ALLAN JAMIESON

DR. JAMIESON died on April 21, 1916, after a long illness. He had reached the age of 77 and in the course of his long pioneer struggle had placed the study of dermatology on a firm basis in Scotland.

He began his career on a sheep run in Queensland, but finding this occupation uncongenial, returned to Edinburgh to study medicine. He graduated in 1865 and took up general practice for a time in Preston. Dermatology always exerted an attraction on him from his student days under Hughes Bennett. Douglas MacLagan, who followed Bennett, advised him to go Vienna to become a pupil of Hebra. After his return, began the struggle for recognition until by way of the City Hospital and a lucky stroke with Unna's zinc gelatine, he broke through the opposition and was made Extra-Ordinary Physician for Diseases of the Skin. The students with their usual clear sight found him out and their increasing numbers caused the authorities to let him use the West Medical Theatre instead of his early cramped quarters. There he taught for twenty years.

He was a prolific writer, contributing over a hundred papers to various journals besides critical summaries of the literature of dermatology to the *Edinburgh Medical Journal*, which embodied the whole development of the specialty. His Manual Diseases of the Skin has passed through four editions and is familiar to us all. He was the first man, Walker says, to use X-ray in mycosis fungoides.

His special hobby was archery and he was a conspicuous member of the picturesque King's Body Guard for Scotland, to which he was also surgeon. Besides the honor which his colleagues paid him, he received several medals and was a Knight of Grace of the Order of St. John of Jerusalem.<sup>1</sup>—J. C. J.

## NOTICE.

The next issue of THE JOURNAL will contain an unusually interesting, timely and valuable article from the pens of Dr. J. F. Schamberg and his associates. The article gives the results of exhaustive experiments to determine the toxicity and the comparative toxicity of salvarsan, neosalvarsan, arsenobenzol and other products of a similar nature.

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<sup>1</sup> Transcripts of an Obituary by Dr. Norman Walker in the *British Journal of Dermatology*.

# THE JOURNAL OF CUTANEOUS DISEASES

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## ORIGINAL COMMUNICATIONS

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### THE ANNULAR MACULAR SYPHILIDE, OR SO-CALLED NEURO-SYPHILIDE.\*

BY HOWARD FOX, M.D., NEW YORK.

(From the Department of Dermatology and Syphilis of the Harlem Hospital.)

The annular macular syphilide is the name now used in our new official nomenclature of the syphilides, to describe a rare form of cutaneous syphilis. Many of the modern text books describe the eruption but not apparently from first hand experience. The English, and particularly the American literature, with the exception of a few text books, apparently do not mention the subject. I am unable to find a reference to a case having been shown at any dermatological meeting in America and I know of no monograph in this country on the subject. There is also a great dearth of illustrations of this condition. A poor colored plate appears in Riecke's<sup>1</sup> text book and a photograph of a well marked case was recently published by my father, Dr. George Henry Fox.<sup>2</sup>

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\*Read before the 40th Annual Meeting of the American Dermatological Association, Washington, D. C., May 8 to 10, 1916.

<sup>1</sup> RIECKE E. *Lehrburch der Haut- und Geschlechtskrankheiten*. Jena, 1914. p. 658.

<sup>2</sup> FOX, G. H. The Classification and Nomenclature of Acquired Cutaneous Syphilis. *Jour. Cutan. Dis.*, 1913, xxxi, p. 224.

The literature upon the subject is comparatively small, especially the reports of individual cases, a trifle over fifty cases having been previously recorded. It is described by Bazin,<sup>3</sup> Mauriac,<sup>4</sup> Hardy<sup>5</sup> and Jullien<sup>6</sup> and is the subject of an excellent thesis by Brauman,<sup>7</sup> a pupil of Fournier. The pathology has been studied by Unna<sup>8</sup> and a review of the German literature is given by Harttung.<sup>9</sup> The most instructive of the more recent articles is one by Nielsen,<sup>10</sup> of Copenhagen.

To Fournier<sup>11</sup> is due most credit for careful study and description of the condition, which he termed "erytheme circinée tertiaire." He wrote, in 1899, "For the past twenty years I have seen manifestations of this kind and I have resisted the idea of considering them syphilitic. But as similar cases continued to appear in syphilitics, I ended by thinking that it was a true specific manifestation, a sort of tardy or even tertiary roseola."

At the outset it should be understood that the eruption in question is entirely distinct from the annular form of the papular syphilide which occurs so frequently in the negro, especially upon the face. Cases of this fairly familiar type are described by Taylor,<sup>12</sup> Shillitoe<sup>13</sup> and Abraham and Davis,<sup>14</sup> but are wrongly termed macular syphilides. From their excellent illustrations and descriptions it is per-

<sup>3</sup> BAZIN, E. *Leçons théoriques et cliniques sur la syphilis et les syphilides*. Paris, 1866, p. 282.

<sup>4</sup> MAURIAC, C. *Leçons sur les maladies vénériennes*. Paris, 1883, p. 523.

<sup>5</sup> HARDY, A. *Traité pratique et descriptif des maladies de la peau*. Paris, 1886, p. 1041.

<sup>6</sup> JULLIEN, L. *Traité pratique des maladies vénériennes*. Paris, 1899, p. 701.

<sup>7</sup> BRAUMAN, J. *De l'erytheme circiné tertiaire de la syphilis*. Thèse de Paris, 1891.

<sup>8</sup> UNNA, P. G. *Neuro-syphilides et neuro-leprides*. *Jour. mal. de cutan. et de syph.*, Aug.—Sept., 1889.

<sup>9</sup> HARTTUNG. *Beitrag zur Kenntniss der wiederkehrenden makulösen Syphilide*. *Arch. f. Dermat. u. Syph.*, 1898, xliii, 307.

<sup>10</sup> NIELSEN, L. *Circinäre syphilitische Erythema (Neurosyphilide-Unna)*. *Monatsh. f. prakt. Dermat.*, 1896, xxii, p. 500.

<sup>11</sup> FOURNIER, A. *Roséoles syphilitiques a recidives multiples*. *Ann. de dermat. et de syph.*, 1896, vii, p. 1141. *Traité de la syph.*, Paris, 1899, p. 277.

<sup>12</sup> TAYLOR, R. W. *A Practical Treatise on Genito-urinary and Venereal Diseases*, 3rd. Edition. New York and Phila., 1904, p. 542.

<sup>13</sup> SHILLITOE, A. *Case of Circinate Erythematous Syphilide*. *Proc. Roy. Soc. Med.*, 1907-8, i. *Dermat. Section*, p. 21.

<sup>14</sup> ABRAHAM, P. S. AND DAVIS, H. In Power and Murphy's, *A System of Syphilis*, 1910, v. p. 38.



fectly evident that these authors intended to describe the annular papular and not the rare macular syphilide, which is the subject of this communication.

The annular macular syphilide, in contradistinction to the ordinary roseola, is seen almost entirely in the so-called late secondary or tertiary periods of the disease. In a case reported by von Zeissl<sup>15</sup> the eruption occurred 29 years and in one by Brauman, 46 years after infection.

The eruption differs from the ordinary early macular syphilide in that the lesions are fewer in number and invariably larger in size. They form circles and portions of circles and at times, by coalescence, large polycyclic figures, the largest lesions being observed during the later period of the disease. It seems to be generally agreed that the macules do not spread in a serpiginous manner but appear as circles and remain as such without change, until influenced by treatment.

The color of the lesions is described as being at first a bright red, with a tendency after a time to assume a yellowish tone. The color also varies with changes of temperature. In the stage of retrogression a certain amount of pigmentation is present.

Scaling is almost entirely absent. In a few cases, a very fine desquamation has been noted, chiefly at the time of involution of the lesions. The eruption is characterized by a total absence of subjective symptoms and as a rule by the absence of any constitutional disturbance.

The sites of predilection of the eruption include the flexor surfaces of the forearms, the buttocks and sacral region and the abdomen and thighs. It is conspicuous by its absence on the face and neck, where the annular papular syphilide is so often seen. While the eruption is exceedingly superficial and as a rule devoid of any elevation above the skin, papular elements are occasionally present or small portions of the circles are elevated.

Most of the cases reported were seen in young adults who, as a rule, were in excellent physical condition. Although the total number of cases included more women than men, the figures are misleading, as twenty-four of the cases were seen by one observer in a hospital devoted to the treatment of women. As a rule the previous

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<sup>15</sup> VON ZEISSEL, M. *Roseolarecidiv 29 Jahre nach der Infection. 3 Fälle von Mastdarmsyphilis.* *Wien. med. Presse*, 1893, xxxiv, p. 82.

course of the disease had been distinctly mild and noticeably free from destructive gummatous lesions. Indeed, in the majority of the cases reported, the macular eruption was the only manifestation of syphilis that was noted. In a few cases a general adenitis, pigmentary syphilide (so-called) of the neck and papules and pustules, were observed.

The duration of the eruption, if untreated, is more or less indefinite, according to Brauman. Even when vigorous treatment is instituted it may require six or even twelve months to cause the disappearance of the lesions. As to the effect of antisypilitic treatment, there seems to be a divergence of opinion, some reporting favorable, others unfavorable results. Lesions which proved refractory to general anti-syphilitic treatment, responded in a case of Quinquad,<sup>16</sup> to calomel plaster and in a case of Leistikow,<sup>17</sup> to the local use of chrysarobin and pyrogallic acid.

The annular macular syphilide has a decided tendency to recur even when a liberal amount of treatment has been given. It may recur two, three or even four times.

The pathology of the eruption has been especially studied by Unna, who calls it a neuro-syphilide, analogous to the circinate lesions of nerve leprosy (the neuro-lepride). He considers the process to be a syphiloma of vasomotor nerves and not a cutaneous syphiloma; in other words, a chronic neurotic erythema. The histological changes which he found consisted chiefly of hyperplasia and sclerosis of the vessels in the upper layers of the derma, while there was a notable absence of infiltration, especially of plasma and giant cells, characteristic of other syphilides. Clinically the neuro-syphilide is distinguished, according to Unna, by its lack of infiltration, its stability, chronicity and resistance to treatment.

As to the cause of this peculiar type of cutaneous syphilis, the opinions of different authors have varied. Bassereau<sup>18</sup> thought that it was due to insufficiency of treatment, while Bazin, Fournier and others thought that the modifying action of mercury was the cause

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<sup>16</sup> QUINQUAD. Discussion of Souplett's paper, "Sur un cas d'érythème circiné tertiaire." *Ann. de dermat. et de syph.*, 3rd Ser. iii, 1892, p. 1154.

<sup>17</sup> LEISTIKOW, L. Zur Therapie der Neurosyphilide. *Monatsch. f. prakt. Dermat.*, 1894, xviii, p. 177.

<sup>18</sup> BASSEREAU. *Traité des affections de la peau*. Paris, 1852.

PLATE X.—To Illustrate Article on The Annular Macular Syphilide,  
by HOWARD FOX, M.D.



Showing Annular Macules on the Trunk.

THE JOURNAL OF CUTANEOUS DISEASES, April, 1917.





of the eruptions. This, however, could not have been true in the case of Etienne,<sup>19</sup> in which no treatment whatever had been given.

#### CASE REPORT.

The patient whose case forms the basis of this report, was a woman (M. C.), 43 years of age, married, born in the United States. She stated that she applied for treatment in December, 1913, at the Post Graduate Hospital, coming under the case of Dr. Parounagian. She presented a rash, sores in the mouth and stated that she suffered from sleeplessness, malaise and loss of weight. A diagnosis of macular syphilide was said to have been made, confirmed by a four plus Wassermann and the finding of *spirochætæ pallidæ* in lesions in the mouth. She was then given two intravenous injections of salvarsan and seven intramuscular injections of mercury, after which she discontinued treatment. About thirteen months later she came to the Harlem Hospital and presented a macular rash on the trunk, thighs and forearms. At that time she complained of sore throat, hoarseness, nocturnal headaches and restlessness. The eruption appeared to be a typical recurrent macular syphilide of the common roseolar type. It disappeared shortly after a single injection of salicylate of mercury. On Nov. 1, 1915, that is, nearly two years after the time of infection, she again came to the Harlem Hospital, complaining of sore throat and difficulty in swallowing. She was unable to sleep and perspired freely at night. There was involuntary jerking of the legs and stiffness of the hamstring muscles. After four or five days an eruption appeared on the abdomen, later spreading to the chest, back, arms and legs. The eruption caused absolutely no subjective symptoms of any kind. It consisted of superficial rings from 3 to 4 centimeters in diameter, the centres showing normal skin and the borders being 1 to 4 millimeters in thickness. The color was reddish, with an admixture of yellow. There was no perceptible elevation and no scaling of the lesions which were present on the trunk, arms, forearms, buttocks and thighs. There were none upon the face, neck or legs. There was an enlargement of the axillary and one inguinal gland and a moderate angina. The Wassermann reaction was strongly positive. A biopsy was unfortunately not obtainable. At the end of a month without treatment, there was no change in the eruption and about four months later, the patient wrote that it was still present.

In conclusion, I would agree with Nielsen that the annular macular syphilide is probably somewhat more common than is generally supposed. That so few cases have been reported may be due to the fact that the eruption is inconspicuous, occurs on covered parts of the body and occasions no subjective symptoms. Even when noticed by the patient, it is not apt to be recognized by the physician, especially as it may occur so many years after the original infection.

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<sup>19</sup> ETIENNE, G. Syphilides érythémateuses circinées. *La med. moderne*, 1893, LV, p. 854.

## DISCUSSION.

DR. HAZEN said he had seen three cases of this condition, of which he gave notes to Dr. Fox. In all three instances the patient had what was apparently an erythema multiforme. The first case, of which Dr. Fox had a photograph, was a trifle raised and hardly of the macular type. The other cases were macular. In the first case the lesions came out as annular lesions, and disappeared under mercury. It was under treatment for several months and then disappeared, so treatment was discontinued. The speaker met the patient on the street one day and there were no lesions. Two days later the lesions came on again, erupting suddenly.

A negro girl, Dr. Hazen said, had been under treatment for syphilis at the Freedmen's Hospital. Two years after she ceased coming, she suddenly developed three large, annular, macular lesions on the upper portion of the chest. The patient gave a false address and no trace of her could be found.

The third case was one appearing in a woman, on the flexor surfaces of the forearm and the flexor and extensor surfaces of the limbs, two weeks after the early macules had appeared. While this case resembled erythema multiforme, there was no burning or tenderness over the lesions.

It seemed to him that it was possible that some of the so-called cases of erythema multiforme perstans might be examples of this condition. The speaker said they ought to get a few more biopsies from this condition. Where they undoubtedly resembled erythema multiforme they should get some more histological studies to see if they were or were not true syphilodermata.

CASE 1. White male, aged 50. Had a definite syphilitic infection two years before coming to the clinic, with a well developed macular eruption. There had been about six months of treatment with protiodide pills. He had no recurrences until the present attack.

Two months before coming to the clinic he first noticed an eruption upon the backs of his hands and upon the flexor surfaces of both forearms. This gave rise to no subjective disturbances.

Examination revealed the presence, upon the back of hands and flexor surfaces of the forearms, and upon the lower portion of the upper arms, of a ringed eruption, some of the circles being complete and some represented by segments. There was a marked tendency towards grouping. In all there were probably fifty lesions. The lesions were well defined, there was a slight amount of infiltration and there was absolutely no scaling. The color was rosy pink. There was no eruption upon any other portion of the body, nor did the patient show any other signs of syphilis, except some enlargement of the posterior cervical glands.

Under mixed treatment the lesions disappeared in three weeks, when the patient discontinued treatment. The lesions reappeared within a month of the time that the medicine was stopped, and again vanished promptly upon the administration of more mercury. The patient was then lost sight of.

CASE 2. White woman, aged 33. She had been infected four months before, and had a slight transient macular eruption. Patient was seen in consultation in a hospital. She presented a marked ringed eruption, similar to the one described in the case mentioned above, with again no subjective disturbances. She was very intolerant of mercury, a dose of one grain by mouth causing violent abdominal symptoms, and an exaggeration of her cutaneous manifestations, the lesions becoming much brighter in color. Unfortunately the patient was then lost sight of.

CASE 3. Negro female, aged 22. Patient had been infected six months before and had displayed a well marked papular eruption, which had cleared fairly readily under injections of the salicylate of mercury. After an absence

of three months, she entered the clinic with three large serpiginous lesions on the upper portion of the chest, the lesions were symmetrically placed, the largest one in the centre, and the two smaller ones just below and to the sides. The large lesion had a diameter of over four inches, and was irregularly circular. In one point nearly an inch of the ring was missing. The smaller lesions resembled the larger, but their diameters were not over two inches. The edges were about one quarter of an inch in width, and were slightly infiltrated, but were free from scales. In color there was a marked yellowish tone. There was slight itching. In this case there were mucous patches in the mouth and marked general glandular enlargement. The Wassermann was strongly positive. Unfortunately the patient gave a fictitious address and could not be traced, so was seen but once.

DR. RAVOGLI said he had had occasion, some years ago, to describe cases, which he called returning roseola, just about the end of the first year since infection with syphilis and sometimes in the second year. It seemed to be a rather serious manifestation. The roseola eruption consisted of large spots of reddish-blue color, of the size of a quarter of a dollar to a half dollar, on the chest, abdomen and sometimes on the arms and forehead. They remained for a long time and did not show swelling nor desquamation. He called it returning roseola and had found it very stubborn and resistant to treatment.

The speaker would say, in regard to the arrangement or disposition of the patches which had been described, he had not seen any, and the only case which he saw like this one, was diagnosed as a form of parapsoriasis. The case was treated with injections of gray oil successfully, and he was positive that it had been nothing else than a returning syphilitic roseolar eruption.

DR. POST said that Dr. Howard Fox had described an eruption with very abundant lesions. The speaker said he had seen several cases, where the lesions were very few in number, but which had never been photographed. They were so faint that a strong light would render them invisible. The patients that he remembered were those in which the lesion had been discovered by the patient sometime before, but they were so slight that it was scarcely possible to believe in their existence, and the individual had not thought it worth while to consult his doctor.

DR. HOWARD FOX said it was pretty well known that the macular eruption could relapse one or more times, but it was not so well known that it might occur during one of these relapses as a circinate eruption. In regard to the fact that the eruption in his case was fairly profuse, he said that this might occur when it appeared at a comparatively short time after infection. The longer the time after infection, the less profuse the eruption tended to become. In his case the infection was of two years' standing and the lesions were fairly numerous. In cases where the infection had existed ten or more years, the lesions were apt to be few in number. Dr. Post's observation in regard to the faintness of the eruption agreed with the experience of most of the writers upon this subject. For this reason, Dr. Fox had found it very difficult to obtain a good photograph, having wasted a good many plates before being successful. The eruption was also fainter at times than others, depending largely upon the temperature of the room where the patient was examined. A point of special interest in this type of the macular syphilide was its tendency to persist for a long time, even for five years, a fact which distinguished it from erythema multiforme.

## A SKETCH OF MY RESEARCH ON SYPHILIS.\*

BY J. E. R. McDONAGH, F.R.C.S., LONDON.

My work commenced with an enquiry into the cause of syphilis, since the discovery of the *Spirochæta pallida* did not clear up any of the clinical problems which were confronting us. Perhaps the most interesting of these clinical problems is that dealing with conceptional syphilis. The *Spirochæta pallida* cannot possibly enter an ovum with a spermatozoön, allowing at the same time that impregnated ovum to develop. If my view be correct, that the *Spirochæta pallida* is only the adult male phase of a coccidial protozoön, which I have named the *Leucocytozoön syphilidis*, and that the actual cause of syphilis is the spore, the phase which gives rise to the adult sexual forms, and again develops in turn from their conjugation, an explanation of conceptional syphilis is forthcoming. The spores are minute organisms which may easily be imagined to travel in the semen and reach the uterus with the embryo along the Fallopian tube, to find themselves later in both the maternal and foetal portions of the embryo. The spores in the foetal portion could, after a period of some weeks, develop into the adult sexual phases, which might or might not kill the embryo. The spores in the maternal portion appear, from our clinical knowledge, to remain dormant for some time—indeed, very often until the menopause is reached, presumably owing to a chemico-physical substance which emanates from the chorionic cells and prevents their development. This will explain why a woman who has once given birth to a syphilitic child is always liable to infect her future offspring, even if the father of the latter be another man who has never had syphilis. No initial lesion of a disease can be so varied as the syphilitic chancre, a circumstance difficult to ex-

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\*The Editor of the *Journal of Cutaneous Diseases* has very kindly invited me to write an article. I consider that his invitation does me a signal honor and I gladly seize the opportunity of bringing my views before a section of my colleagues, whose critical faculty is equalled only by their desire for progress. I feel that I am bringing my views before men who will not hesitate to criticise and who will not dismiss those views as being unworthy of consideration, because they are not hallowed by age. I propose to give a brief sketch of the research work I have done on syphilis during the last few years. My sole request to the reader is—*verbera sed audi*.



plain if the *Spirochæta pallida* is the sole cause. Diseases the symptoms of which are continually recurring are practically all due to protozoa, which have life-cycles; therefore, it is reasonable to suppose that syphilis is not different, in this respect, from malaria, etc. The division of the *Spirochæta pallida* has not, I believe, been actually witnessed and recurrences of symptoms occur, in spite of the fact that two injections of salvarsan suffice to kill every *Spirochæta* in the body.

From these few points and others narrated elsewhere, it is clear that the *Spirochæta pallida* cannot be the sole cause of syphilis. As a result of examinations conducted with fresh (alive) and fixed syphilitic and control tissue, I found that the life-cycle of what I have called the *Leucocytozoön syphilidis*, which is a coccidial protozoön, begins with a spore. The spore enters a connective tissue or an endothelial cell and develops into immature male and female phases. The immature male phase further develops in a large mononuclear leucocyte, wherein it forms a coil. When the coil is fully developed, by which time the degeneration of the leucocyte is complete, the coil breaks up and gives rise to *Spirochætæ*. The immature female phase develops extracellularly into the adult female form. The *Spirochæta* then fertilizes the adult female phase as a spermatozoön does an ovum and two polar bodies are extruded, as in the latter case. The nucleus of the impregnated cell divides and subdivides several times, to form spores. The spore may develop only asexually, in which case the syphilitic lesions are slow in development, very chronic, extremely resistant to treatment and the blood does not give a positive Wassermann reaction. I have little doubt, from my investigations into the ætiology of granuloma inguinale, that this disease is caused by a coccidial protozoön in which only the asexual stage is perpetuated.

I have also described another condition under the name of *Coccidiosis avenerca*, caused by a protozoön the spore of which develops only asexually. Unfortunately, the term coccidiosis has been too widely used; probably in all the cases described under this heading, the causative organism has been a fungus and not a protozoön at all.

The stains which were most widely employed in this work were borax methylene blue for *in vivo* staining, and pyronin and methyl green for the staining of fixed tissue. Borax methylene blue is a mixture of two dyes—(1) methylene red, and (2) methylene violet.

The *Spirochæta pallida* and the impregnated female stain with methylene red, and the other phases with methylene violet, except the phases which represent the development of the spore from the adult sexual bodies, for these stain with both, i. e., metachromatically. Methylene red is an acid dye and therefore should stain material which is basic, while methylene violet is a basic dye and therefore should stain material which is acidic. In the fixed tissue, all the phases stain with pyronin and never with methyl green. Both pyronin and methyl green are basic dyes. The phases do not exhibit a ready affinity for acid dyes, although they will stain with safranin and diazine green rather than with methyl green. These observations led me to study the rationale of staining, with the result that I came to the conclusion that staining was influenced by oxidation and reduction as well as by reaction, i. e., the basic or acidic nature of the material stained. Further investigations into the physico-chemistry of the *Leucocytozoon syphilidis* resulted in my discovering that the phases were made up of a number of colloidal particles, which consisted mainly of lipoid-globulin, the reducing action of which was particularly marked. I also found that some of the fatty acid groups in the lipoid-globulin particles of the *Spirochæta pallida* and the female cell after impregnation were more unsaturated than fatty acids in cells usually are, an observation which explains why these phases stain with silver nitrate in Levaditi's method of staining, and why they are so quickly destroyed by a metallic compound such as salvarsan. It is owing to the strong reducing action of the lipoid-globulin that the particles do not stain with methyl green. Being under the impression that the host attacked his parasites by a chemico-physical action which could only emanate from protein particles, which were as nearly alike as possible to those of the parasites attacked, I next turned my attention to the serum. The outcome of these investigations proved that the protective substances were colloidal particles of a lipoid-protein nature, most of which circulated in the serum, and some of which remained localized where they formed the protoplasm of the plasma cells, the progenitor of all being mainly the lymphocyte. The lymphocyte, then, and not the polymorphonuclear leucocyte is the more important; indeed, I do not believe that organisms are killed *in corpore* by phagocytosis. These protective protein particles have the same stereo-chemical molecular configuration as those of the parasites they attack. The protein particles are

emulsoid particles; that is to say, they contain water and salts which give the impression of their being in solution. If the water or the salts are removed, the particles change their colloidal state, lose their Brownian movement and become precipitated, in which form they receive the name of suspensoid. As the parasites are killed by a chemico-physical action which takes place on the surface, and therefore by an action which can be designated by one word—adsorption, it is necessary for the protective protein particles to be kept in the perfect emulsoid state, because the more suspensoid they become, the less pronounced is their power of adsorption. These particles are kept in their perfect emulsoid state by a continual interchange of salts from their surface (internal phase) with those of the surrounding fluid (external phase). This continual interchange is regulated by the hydroxyl and hydrogen ions; therefore, the particles are maintained in their emulsoid state by what is known as the normal hydrogen ion concentration. Both *in corpore* and *in vitro* these protein particles will absorb other colloids. If the colloids injected are perfectly emulsoid, nothing happens; if partly emulsoid and specific, acute or subacute shock is produced, because the normal hydrogen ion concentration is in part upset; if suspensoid, alarming shock symptoms—even sudden death—may be caused, owing to a still further upset of the normal hydrogen ion concentration. *In vitro*, the colloidal particles will likewise adsorb other colloidal particles, which, if imperfectly emulsoid and suspensoid, will result in partial or complete upset of the normal hydrogen ion concentration. The adsorption, and likewise the upset of the normal hydrogen ion concentration, will naturally be dependent upon the number of the protective protein particles in a given quantity of serum. From an ultramicroscopic examination of a large number of sera, I found that the protective protein particles were more numerous and their size greater in syphilitic than in any other sera. An ultramicroscopic examination renders the Wassermann or any other reaction superfluous, as not only may a syphilitic serum be differentiated from any other serum, but a good guess may be given as to the kind of syphilitic serum examined. In early syphilis, the particles are increased in number and in size; in syphilis which is being treated, the particles are very small and exceedingly numerous; while in recurrent and late syphilis the increase in size is more noticeable than the increase in number. As the ultramicroscope is an expensive instrument and not

likely to become widely used at present, I have devised a ready means of obtaining similar results with what may be called in short the Gel Test. When glacial acetic acid is added to serum, the protein particles become deionised, lose their Brownian movement and ultimately go into solution. In other words, they change their colloidal state, with the result that they are easily precipitated by a further addition of glacial acetic acid, and still more readily if an electrolyte of a heavy metal be present. The rate and degree of precipitation will naturally depend upon the number and size of the protein particles, and it is most rapid when the increase is in number and slowest when the increase is only in size. It follows that syphilitic protein particles are more readily precipitated on the further addition of glacial acetic acid and thorium or lanthanum sulphate in glacial acetic acid than normal protein particles, and that the precipitation will occur most rapidly in sera taken from cases of early generalized syphilis which are under treatment.

The protein particles of syphilitic sera have a stronger adsorptive capacity than those of normal sera; they contain more adsorbed amino groups and more adsorbed ions, in consequence of which they will readily adsorb another colloid. If the adsorption of the other colloid takes place in a medium in which the normal hydrogen ion concentration is maintained, the latter will be destroyed. The other colloid in the Wassermann reaction is the antigen, and complement is nothing more nor less than the normal hydrogen ion concentration. A parallel example occurring *in corpore* is seen when a suspensoid colloid like aluminium hydroxide is injected intravenously. Shock which may be sufficient to cause death occurs: this is anaphylactic shock. Therefore, anaphylaxis is simply due to an upset of the normal hydrogen ion concentration or to a destruction of complement *in vivo*. Take again the hæmolytic system. It is not necessary to employ rabbit's serum immunised against the red blood corpuscles of the sheep; a suspensoid colloid like aluminium or ferric hydroxide is sufficient. Adsorption occurs between that colloid and the protein particles of both the red blood corpuscles and of the guinea-pig's serum, with an upset of the normal hydrogen ion concentration, a phenomenon which alters the surface tension. Consequently, the blood corpuscles give up their hæmoglobin.

It is the increased adsorptive capacity of the syphilitic protein particles which enables them so readily to take up a colloid when it is



injected intramuscularly or intravenously. Practically speaking, any colloid will have a therapeutic action in syphilis, since when injected it breaks down the large protein particles into numerous small ones, thus increasing the surface and consequently their protective action. Naturally, some colloids are more powerful than others, and research has shown that the colloid must be emulsoid, and that if it is a ring compound it must contain amino groups, and that the action is greatest when the amino groups are in the ortho-position to the element also combined with the ring. When a drug like salvarsan is injected, it first of all becomes attached to the protein particles of the serum and to those of the plasma cells; therefore, it is organotropic. It is impossible for a drug to be parasitotropic only, and I am sure we are wrong in supposing that a drug can have a selective influence on certain cells only. Chemotherapy is regulated entirely by chemico-physical factors. Salvarsan, as we know, contains arsenic, simply because the foundation upon which the synthesis of arsenical compounds is built was laid by Béchamp as long ago as 1863. Arsenic has no selective action *in corpore*, although, it, antimony and silver, are the three metals which have the greatest bactericidal power *in vitro*. A compound containing one or more of these three metals will not cure any generalised bacterial disease. Copper is the strongest fungicide known but practically useless in fungus diseases. Iron has practically no bactericidal, fungicidal or spirilloccidal action, and sulphur even stimulates the growth of bacteria *in vitro*; but, nevertheless, both are extremely useful in syphilis, and sulphur, as in my compound intramine (di-ortho-amino-thio-benzene), has in some cases of syphilis a therapeutic action far surpassing that of salvarsan.

The action of a metal is influenced in part by its valency and largely by its atomic weight, since the greater the atomic weight of a metal, the greater its power of adsorption; hence the reason why mercury is useful in syphilis.

Here again, mercury is only of value in syphilis, because of the peculiar physical properties of the syphilitic protein particles. The greater the bactericidal action of a metal *in vitro*, the greater its toxic action when injected into the body. Hence, so long as we use arsenic, antimony and silver, so long are we playing with fire. From a further series of investigations into the action of elements, I came to the conclusion that metals act as oxidising agents and non-metals as reducing agents. Active oxygen is formed in the body by the action

of a peroxidase on a peroxide. The natural peroxidase is a ferment and a compound containing hydroxide of iron. The peroxide along with active hydrogen is formed by a ferment which has been called a perhydridase. The natural perhydridase is a di-sulphide protein. Oxidation and reduction processes, then, are naturally regulated in the body by iron and sulphur; therefore, I thought that if strongly adsorbed compounds of these two elements could be prepared, that their therapeutic action in syphilis would be more marked and less dangerous than that produced by arsenical compounds. I think it will be ultimately proved that what we now call active oxygen and active hydrogen will turn out to be certain properties of the hydroxyl and hydrogen ions, properties conferred upon them and regulated by the chemical groups of the compounds to which they are adsorbed.

The use of arsenic alone in syphilis only fulfils half of the therapeutic programme, since it acts solely as an oxidising agent and presumably not at all as a reducing agent. The introduction of intramine, which completes the programme, not only greatly increases the action of the arsenic compounds, but it also permits of the same therapeutic action being obtained with smaller and fewer doses. As oxidation is more to the fore in early syphilis and reduction is more to the fore in late syphilis, it is necessary in the former case to administer intramine after the metallic compound, and *vice versa* in the latter case. The action of iodine is similar to that of intramine, but owing to its being in a monovalent state, it is not easy to prepare a powerful organic compound thereof. In the colloidal form, iodine is preferable in every way to the potassium salt, and, moreover, it can be injected intravenously—300 cc. of a 1:500 solution—with impunity. Experiments have shown that an intravenous injection of colloidal iodine should be given in every case of syphilis, 24 hours before salvarsan or intramine. Colloidal iodine breaks the colloidal particles up into very small bodies, and thus increases their receptivity for salvarsan, and it readily takes up the mercaptan group which results from the splitting up of the intramine, thus avoiding the affinity for oxygen which this group shows. Intramine is extremely useful in all chronic infections, especially in tuberculosis, and when applied locally to chronic ulcers. On acute ulcers, one of the best applications is colloidal silver, and it is a useful practical point to mention, as well as being a point in favor of my oxidation theory—namely, that one application of colloidal silver will often cure chilblains. Up to the present, I have not been so successful in preparing

an iron compound as I was with the sulphur one. The best iron compound up to now is the ferric tri-para-amino-sulphonate, or ferrivine. Owing to the readiness with which this compound forms ferric hydroxide when injected intravenously, shock sometimes occurs; consequently, it is necessary to protect the compound with an emulsion colloid. Unfortunately, the more protected a colloid is, the less the therapeutic action it exerts. To obtain an iron compound as good as salvarsan, it will be necessary to prepare one in which the iron is more firmly fixed to the benzene ring than it is in ferrivine. When such a compound is prepared, I am certain our treatment of syphilis with iron and sulphur will be much better and safer than with arsenic, since, however quickly salvarsan may get rid of symptoms, it most assuredly does not cure syphilis; indeed, owing to its deleterious action on nerve tissue, it is increasing our cases of nerve syphilis to an alarming degree.

One of the most interesting outcomes of this research is the light thrown upon the ætiology of malignant disease. As already stated, the protein colloidal particles are larger in late than in early syphilis; but there is a greater difference than the mere increase in size. In late syphilis, as the particles get bigger, they become less emulsoid and have fewer adsorbed ions, but they are richer in carboxyl groups. It is owing to these properties that treatment in general has a more rapid effect upon the lesions than it has in early syphilis, and that treatment with reducing agents alone is superior to that with oxidising agents alone. Naturally, the best treatment in every case of syphilis is that obtained by a combination of oxidising and reducing agents.

I inferred from the above, that the greater was the call upon the host's protective substance, the less perfect would be the response, if that call were a prolonged one. As I have always thought that malignant disease was really an expression of the cells' resisting power against an irritant of either a chemical, physical or mechanical nature, I directed my attention to the study of cancer cells, and undertook a series of experiments which my work on syphilis suggested to me. Although my results are not yet finished nor have been published, I may say that the protein particles of cancer cells are less emulsoid than those of normal cells; they have fewer ions adsorbed to them; they are richer in carboxyl groups; their reducing action is greater and their adsorptive capacity is less.

Therefore, the cause of cancer is an irritant which alters the colloidal characters of the protein particles of the cells irritated, with a result

that such cells behave like parasites only in a more marked degree, because they upset the normal colloidal state of the protein particles around them, and consequently, the normal hydrogen ion concentration as well, in an attempt to regain their perfect emuloid state. The play acted in a cancer area is similar to that which takes place in the first half of a complement fixation test *in vitro*.

Those who require in more detail the outline of my research work, which I have sketched here, I must refer to my books "The Biology and Treatment of Venereal Diseases" and "Links in a Chain of Research on Syphilis."—*Lca and Febiger*, Philadelphia.

#### SUMMARY.

1. The *Spirochæta pallida* is not the sole cause of syphilis, but only the adult male phase of the coccidial protozoön—*Leucocytozoön syphilidis*.

2. Staining, although influenced in part by reaction, is also largely influenced by oxidation and reduction.

3. Oxidation and reduction are either regulated by special ferments, or more probably by the hydroxyl and hydrogen ions, which behave differently according to the "substratum" or physico-chemical nature of the bodies to which they are attached.

4. Syphilitic serum is peculiar, in that the portein particles are more numerous and larger than they are in other diseases.

5. The Wassermann reaction is a purely physical reaction, depending upon the number and size of the particles in the serum being tested.

6. A positive Wassermann reaction means no more than that the patient has presumably had syphilis; it does not signify that the patient is actively syphilitic or that he necessarily requires treatment.

7. The Gel Test will give more information about a given serum than can be obtained with the Wassermann reaction.

8. Chemotherapeutic agents are more organotropic than parasitotropic and act by altering the physical state of the protein colloidal particles in the serum.

9. Metals act as oxidizing agents and non-metals as reducing agents.

10. As oxidation and reduction are regulated in corpore by iron and sulphur better and safer therapeutic results can be obtained by using compounds containing these two elements than by using compounds containing such toxic elements as arsenic, antimony and silver.



## PRACTICAL POINTS IN ROENTGEN THERAPEUTICS.

BY C. AUGUSTUS SIMPSON, M.D., WASHINGTON.

Now that we are on the crest of the second wave of X-ray popularity it seems a fitting time to sound a word of warning to those who contemplate the treatment of skin diseases and cancer with Roentgen rays.

There are many skin lesions which are quickly influenced by the ray, but it is necessary to make some arbitrary classification of these lesions. For convenience I shall refer to one, a general class, another, a border line class and a third, a malignant class. The general class will receive little attention as it is optional with the different dermatologists as to the quality and quantity of ray such cases should receive. "Safety first" should be the aim here, as there are always other methods of treatment for these cases.

I would suggest that any one not well acquainted with this work, who anticipates doing it should make a sound study of the well-known articles dealing with the massive or direct methods of dosing which have been published in this country and Europe during the past three or four years.

It is well to remember that the different lesions may vary in their sensibility, that the different locations, as the flexor surfaces and the face, are more susceptible than other portions of the body, also that if there is the least doubt as to one's diagnosis or X-ray technique it is far better for both patient and physician to try first to cure the lesion with ordinary internal and external medication. In this class one should always give a fraction of an erythematous dose, making sure of a rather hard quality of ray, by using a thin filter of some such article as chamois skin.

It should not be forgotten in dealing with the lesions which I call the general class, that the X-ray is not a specific in any sense of the word, that a burn of any degree is unnecessary and unpardonable and that our old and tried remedies might with a fair trial give a splendid result.

Under the general class should be included such diseases as lichen planus, psoriasis, certain forms of eczema, pruritus ani, Duhring's disease, etc.

In the second or border line class of cases one is dealing with an entirely different state of affairs. Here the margin between safe and dangerous radiations is so narrow and ill-defined that the treatment calls for the most scrupulous care and watchfulness on the part of the operator. Two things are necessary: first, that the quantity of ray given must be large enough preferably to give a result in one or two sittings and secondly, that the quantity given should be of such a quality as not to injure permanently the tissues.

It will save the dermatologist much time, expense and worry if he allows these cases to go untreated, rather than attempt to handle them with an untried and unreliable technique. With some of these patients results are demanded for purely cosmetic purposes while with others of a more or less nervous makeup, a minor blemish is magnified by the sufferer until it becomes an obsession. The wishes and demands of such patients are about as variable as the winds and too much discretion cannot be exercised by all physicians when dealing with them. Roentgen therapists especially, should be on their guard when they meet these neurotics and should carefully abstain from undertaking such radical measures as the removal of superfluous hair, hyperidrosis of the axilla, etc. The fact that one is an experienced radiographer is not sufficient evidence in itself to make one competent to handle such cases.

The cases that I shall include in the border line class are notoriously rebellious to other forms of treatment, the X-ray being by far the surest and quickest method of cure. Favus, trichophytosis capitis, hyperidrosis, bromidrosis, hypertrichosis, chronic rebellious acne, keloidal acne, chronic coccogenic sycosis and keloid are in this class. Naturally, this list will not go unchallenged. By including chronic sycosis and certain chronic rebellious forms of indurated acne, I do not mean to imply that many of these lesions can not be successfully treated and cured by suitable local and general remedies, combined with vaccines. However, after all forms of treatment have been given a fair and impartial trial in the hands of the most skillful dermatologists, there are still many that go uncured. I use the Engman technique for giving vaccines in all cases of acne, both mild and severe, but it is a sad commentary on our ability as dermatologists to observe the indifferent results we get in the usual treatment of the most common skin disease, acne.

In the rebellious forms of acne which have resisted the usual dietary, local, general and vaccine treatments we have in the X-ray almost a

specific. I do not hesitate to give a good prognosis to these patients and I insist that there is no method of treatment that compares to it, when one considers the type and chronicity of the cases treated. Three years' experience with the Kromayer lamp and several years' work with vaccines of all kinds and all techniques have only strengthened my confidence in the X-ray. I know that this is a radical statement, but let the doubter build up a suitable technique and he will be convinced of its truth. In chronic sycosis this statement also holds good. I do not think I have driven as many patients out of my office by any one form of treatment as I have by giving vaccines to my cases of sycosis. When we get one of these patients who gives a history of visiting one dermatologist after another, I think we are wasting his time and money if we do not give him X-ray treatment immediately.

In favus and trichophytosis capitis there is of course nothing that begins to equal Roentgen-ray epilation; but an over-dose, especially in ringworm, means permanent alopecia and a life-long source of humiliation to the operator, even if he escapes an expensive damage suit.

In hypertrichosis I would prefer that a more experienced Roentgen therapist should speak. I may be unnecessarily skeptical but I am forced to believe that so far as the X-ray is concerned, these cases should go untreated. The majority of these patients belong to the neurotic class and while they do experience a certain amount of mental anguish, their supplications are in most cases insincere and exaggerated. I think that many of us have more or less accidentally produced a permanent alopecia while attempting to cure another lesion than hypertrichosis but I, for one, refuse to make a business of it, in the present stage of the development of Rentgen therapy. For those who are now, or who contemplate treating such patients, I would advise a written and signed agreement in which the danger and risk would be fully explained and assumed by the patient. Atrophy and teleangiectasis are oftentimes late in developing in some cases of X-ray dermatitis and in the meantime the patient might suffer a change of heart.

In hyperidrosis and bromidrosis we are very often dealing with a local manifestation of a general condition. I always feel safer in treating these cases with X-ray after they have been thoroughly examined by a good internist. When these lesions are well developed on the palms, it may very seriously interfere with the earning capacity and livelihood of the patient. Here one is justified in producing atrophy of the sweat

glands by a mild form of radiodermatitis. It is another matter to produce the same reaction for the same lesion located in the axilla. In such a case one is most often dealing with an annoying condition in a neurotic, vain woman and the question of livelihood may be ignored.

Acne keloid, keloid and rhinoscleroma are three diseases that resolve more quickly under radium and X-ray therapy than any other form of treatment. In the choice of the two methods of therapy, the results will depend more on the experience of the operator than on anything else. With a well developed X-ray technique I feel that one will seldom if ever have to resort to radium.

In considering the third or malignant class of cases there is little to be said. To handle properly these cases a powerful X-ray equipment and a machine capable of backing up an 8 to an 11-inch spark gap is required to save time. A Coolidge or a well-seasoned gas or water cooled tube, heavy filters (2 to 5 mm. aluminum) and thick leather filters for secondary rays, are indispensable. Give at least a full erythematous dose or more in as few sittings as possible and use cross-fire methods where necessary or possible. Allow three weeks to elapse between the treatment of the same skin surface and be on your guard in patients with metastatic growths, for constitutional symptoms, as toxicity, nausea, vomiting, etc.

In the malignant as in the general class cited above, the minutest details of technique are not absolutely essential, as in the border line class. In the general class of skin lesions, an over-dose of ray is unpardonable while in the malignant class this is sometimes quite necessary. Also one may have to give a very hard quality of filtered ray in a quantity that may tax the resistance of the skin in order to overcome the emergency that most often exists. In the malignant class, I should include such lesions as malignant epithelioma of all forms, sarcoma, granuloma fungoides, leukemia cutis, pseudoleukemia cutis, rhinoscleroma, etc.



# ÉRYTHRODERMIE CONGÉNITALE ICHTHYOSIFORME.\*

REPORT OF CASES WITH A DISCUSSION OF THE CLINICAL AND HISTOLOGICAL FEATURES AND A REVIEW OF THE LITERATURE.

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## HISTORICAL SKETCH.

Brocq, who first recognized the disease as a clinical entity, observed his first case in Vidal's service in the Hôpital St. Louis, in 1881. Vidal and Hillairet, who had studied the patient, considered the possibility of pityriasis rubra pilaris partly on account of the follicular keratosis on the dorsal surfaces of the fingers. Other members of the Staff suggested a combination of ichthyosis and seborrhœa. Later, Vidal, after a more careful study, changed his mind and presented the case before the Société de biologie, in April, 1882, under the title of *hyperépidermotrophie généralisée*. Brocq thought that the dermatosis suggested ichthyosis in a general way, but differed from the latter affection in many particulars. In the next few years he collected a number of cases, some of which had been already reported by other observers under varying titles. As a result of a careful study of these cases he became convinced that he was dealing with a new clinical entity of which there were several varieties. He gave the disease the title of *érythrodermie congénitale avec hyperépidermotrophie*. Later, after he had ascertained that there were cases not associated with rapidly growing hairs and nails, the title ended with: *avec ou sans*

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NOTE.—This paper will appear in several instalments.

*hyperépidermotrophic*. Finally, after he had encountered and recognized a bullous type, the caption was lengthened into *érythrodermie congénitale ichthyosiforme avec ou sans hyperépidermotrophic et avec ou sans bulles*.

Brocq published his first article in 1902, although he had called attention to the subject before medical societies as early as 1881. Articles were later published by Thibierge, Rasch, Danlos, Jadassohn, Bizard and Langevin, Nicolas and Jambon, Darier and several others. Many of the authors agree with Brocq and others are not in accord with his views, especially as to classification. These questions, however, will be considered later. Most of the cases of *érythrodermie congénitale ichthyosiforme* in the literature were observed in France; a few occurred in other countries. Our case is the second to be recorded in this country, the first case having been presented before the American Dermatological Association in 1911, by Charles J. White.

#### COMPOSITE CLINICAL PICTURE.

Erythrodermie congénitale ichthyosiforme is a dermatosis which, in the majority of cases, is either present at birth or develops a few days thereafter. Heredity does not appear to play an important rôle. It is about equally common in both sexes. As a rule the disease begins with a more or less generalized erythroderma, which may be very marked or rather inconspicuous. On the other hand a thickening of the horny layer may precede the erythema. As the patient grows older the reddened skin becomes thickened and scaly, while the erythroderma is likely to gradually fade and may disappear entirely in adult life, but the ichthyotic skin remains, although it, too, may undergo some improvement. The condition of the horny layer varies in different individuals and in various parts of the body. The general appearance is that of ordinary ichthyosis, but in ichthyosiform erythroderma the flexures are involved. As a matter of fact the maximum of development is likely to be found in these locations, while in ichthyosis vulgaris the flexures are usually spared. The appearance of the ichthyotic skin varies from a xerosis to a condition resembling ichthyosis hystrix. The palms and soles may be unaffected or they may show a marked degree of keratosis. The face

is usually red and slightly scaly and ectropion may be present. The scalp is generally seborrhœic. The hair of the scalp and body and the nails may grow unusually rapidly (*hyperépidermotrophie* of the French school) or just the opposite condition may prevail (agenesia). On the other hand the appendages may be normal.

There are two general types of the affection, namely, the dry type and the bullous type. The former has been already outlined. The same description will answer for the latter with the exception of the frequent outbreaks of bullous lesions. The bullæ occur most frequently on the extremities, are rather flaccid and soon disappear without the production of scars. They are most frequently noted during the winter months and the attacks become less frequent and may be entirely wanting in adult life. In other words, the bullous variety tends to become the dry type as the patient matures. Even in the dry type of the disease there are periods of remission and exacerbation, the improvement usually occurring during the summer months.

The disease is usually generalized and symmetrical. Cases have been described, however, where there were circumscribed, symmetrical lesions. In some instances these lesions were sharply margined; at other times the margins were not clearly defined. Perspiration over the general cutaneous surface is conspicuous by its absence, but there may be hyperidrosis of the flexures and the palms and soles. The general health is unimpaired and there are no subjective symptoms with the exception of more or less pruritus in some cases. The ætiology, differential diagnosis and treatment, together with a discussion of the clinical and histological findings and review of the literature will appear in other parts of this article.

#### CASE REPORTS.

##### DRY TYPE.

CASE 1, E. M. M.; female; age, 14 years; born in New York City; schoolgirl (Fig. 1, Plate XI; Figs. 2, 3, 4 and 5, Plates XII and XIII.)

FAMILY HISTORY. Her mother died of pulmonary tuberculosis at the age of 36. One aunt died of phthisis. Her father and one sister were deceased, the deaths being of unknown causes. So far as could be determined, no member of the family, other than the patient, either immediate or remote, had ever

had an affection of the skin. It might be stated that the patient had three sisters and one brother, all of whom were in good health.

**PAST HISTORY.** The patient had always enjoyed good general health. She had had none of the acute exanthemata or the ordinary diseases of childhood. When 11 years of age she was treated for a period of three months for chorea, which completely disappeared. It could not be ascertained of what the treatment consisted—presumably arsenic. Menstruation began in the thirteenth year and the menstrual periods occurred irregularly every two or three months and always lasted about five days. It was ascertained from the patient's aunt that the former was normal in every way at birth; also that the delivery was normal and at full term. When five months of age, red areas developed here and there on the body. No definite information could be obtained regarding the size, location, distribution and configuration of these erythrodermatous lesions; nor could details of the evolution of the plaques be obtained. The aunt, however, was certain that the disease began with red patches. She was not sure as to whether or not they were scaly, but her recollection was that the lesions were smooth and flat. A few months after the onset of the erythroderma, the lesions became scaly and, later, this thickening of the horny layer was a marked feature, so that by the fifth year the affected areas were very thick and very dark brown or black in color. There had never been any bullæ. It had never been noticed that the hair and nails grew with unusual rapidity. There was a history of remissions but never any sudden exacerbations. The patient said she thought the condition of her skin often improved during the summer months.

Bulkley had the patient under observation at the New York Skin and Cancer Hospital for several years. He presented her before the Clinical Session of the Sixth International Dermatological Congress and, later, before the New York Dermatological Society, as a case of *acanthosis nigricans*. His description of the case was published in THE JOURNAL for February, 1910, and was as follows:

"The patient was a young girl, 11 years of age. The disease had begun at the age of 6 with verrucous patches most marked in front of the axillæ, on the extensor surfaces of the forearms and the inner aspects of the thighs. The peculiarity of the case was the irregular erythematous plaques, of various sizes and shapes, which resolved and recurred several times during the three years that the patient had been under observation. If not treated they would become covered with a dry, almost ichthyotic condition of the epidermis, which soon darkened. But with frequent alkaline baths and an emollient ointment they would remain as red patches. They not infrequently would assume fantastic shapes."

Later still the patient was presented before the same Society as a case of *erythrodermie congénitale ichthyosiforme* by Kingsbury (THE JOURNAL, 1913, xxxi, p. 783). "The patient was a healthy, well-developed girl, 12 years of age. She presented erythematous patches on the back, chest, abdomen and face, and ichthyotic lesions on the lower extremities, forearms, neck and in the axillæ." In the discussion, Dr. Whitehouse "agreed with the diagnosis. The little girl's skin trouble seemed to conform to the type which Brocq described as ichthyosiform erythroderma. The erythematous lesions were watched from time to time while under his [Whitehouse's] care and would vary within 12 hours."

Dr. G. H. Fox "said that the patches might be described as ichthyosiform, but objected to the diagnosis of ichthyosis as a large portion of the skin was perfectly smooth and normal."

The case was again presented before the Clinical Session of the Thirty-sixth





FIG. 1.

CASE 1.—Note the mottled erythema on the chest and the gyrate erythema on the abdomen.



PLATE XII.—To Illustrate on Erythrodermie Congénitale Ichthyosiforme,  
by GEORGE M. MACKEE, M.D., AND I. ROSEN, M.D.



FIG. 3.  
CASE 1.—Note desquamation on thighs.



FIG. 2.  
CASE 1.—Note clear areas between shoulders.



Annual Meeting of the American Dermatological Association by Dr. Rosen (*THE JOURNAL*, 1916, xxxiv, pp. 132 and 382).\*

It will be seen from these quotations that there is every reason to believe that the erythema preceded the keratoderma and that both the erythematous and the ichthyotic lesions presented evolutionary and involutionary alterations at various times. It will be noted that Whitehouse even calls attention to the fact that the aspect of the erythematous lesions would vary from day to day.

**PHYSICAL EXAMINATIONS** (made by Dr. W. P. Anderton). The patient was a fairly well nourished and developed girl. Eyes: blue irides; pupils equal, regular and react well to light and accommodation. There was no conjunctivitis, ptosis nor nystagmus. Ears and nose: negative. Mouth: tongue, clean, moist, projects mesially without tremor. Teeth, clean; no caries nor pyorrhœa alveolaris. Buccal mucosa, normal. Tonsils, not enlarged. Thyroid: not prominent. Heart: normal in size and position; regular in force and rhythm; no murmurs, thrills nor accentuations; first sound of good muscular quality. Pulse: equal, regular in rate and rhythm; forcible, of good tension; walls of arteries not thickened. Lungs: normal vesicular resonance; breath and voice sounds throughout. No adventitious sounds. In regions where the skin was markedly thickened the tactile fremitus was considerably diminished. Thorax: symmetrical; expansion, good. Breathing, equal and regular. No bony signs of rickets. Abdomen: level, soft, tympanitic; no tenderness, masses nor rigidity. Kidney's: right kidney palpable in its lower three-fourths; left organ not felt. Liver and spleen: not palpable. Genitalia: external genitals normal in development; internal genitals, not examined. Extremities: normal in development. Reflexes: knee-jerks equally active; no ankle clonus; biceps and triceps jerks, normal. Lymph nodes: a few small axillary and inguinal lymph nodes are palpable; no palpable cervical or epitrochlear nodes. Bones and joints: negative.

As a result of the physical examination it will be seen that the girl, with the exception of her skin disease, was in good health and was normally developed, physically. Her appetite was good, her bowels were regular and there was no elevation of temperature. Her blood picture, also, was normal. She led a healthy life, obtaining plenty of fresh air, exercise and sleep. She slept nine hours each day and was compelled to get up once each night to micturate. She was normal mentally, but in school she was in a grade in which most of her companions were a year or two younger than herself. The Wassermann reaction was negative. The von Pirquet test also was negative.

**DESCRIPTION OF THE DERMATOSIS.** Viewing the entire body from a distance the picture was that of a marked and unusual type of ichthyosis. The dermatosis was absolutely symmetrical. The skin everywhere was thickened and on the extremities, back, abdomen, buttocks and shoulders the horny layer was so thick, warty and dark in color, as to suggest the hystrix variety of ichthyosis. An equally striking feature was the erythroderma which, also, was more or less generalized. As one examined the case it was seen that the flexures were involved and that in places, particularly the abdomen, there were areas where the horny layer was not noticeably thickened, at least when viewed from a distance, and that these areas were fairly sharply defined and outlined by a marked degree of erythroderma. It may be stated here that there was only very slight perspiration even in warm weather, although the axillæ, palms and soles were usually moist. There was no fetid odor about

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\*The patient was also presented before the Section on Dermatology of the New York Academy of Medicine, May 3, 1913, under the diagnosis of ichthyosis hystrix (*THE JOURNAL*, 1914, xxxii, p. 387).



PLATE XIII.—To Illustrate Article on Erythrodermie Congénitale Ichthyosiforme,  
by GEORGE M. MACKEE, M.D., AND I. ROSEN, M.D.



FIG. 4.  
CASE 1.—Note the short fingernails.



FIG. 5.  
CASE 1.—Showing parchment-like skin of the palms.

the patient. To facilitate the description of the appearance of the dermatosis on close inspection, we will separate the body into regions.

**HEAD.** The scalp was normal with the exception of a slight, dry pityriasis. It was not erythematous. The hair was well developed. The patient simply had a good head of hair—it was not unusually luxuriant. It was of a chestnut-brown color. The face was brownish-red in color—the color of an Indian—and it produced a rather striking appearance. The erythroderma was not evenly distributed over the face. It was not only more pronounced in some areas than in others, but there were places where the skin was almost white. This gave the face a blotchy appearance. In places, particularly on the forehead, numerous small, erythematous lesions had combined to form gyrate patches. The skin of the entire face was thickened. This thickening was especially noticeable on the cheeks and chin. The skin of the eyelids was almost normal. In the areas where the skin was more markedly thickened the normal markings were accentuated, producing the appearance of lichenification. The desquamation on the face was very slight, the scales being of the furfuraceous type. The skin of the ears was red, a little thickened and slightly scaly. The eyebrows and eyelashes were normal. There was no tendency toward hypertrichosis. The buccal mucosa was normal.

**NECK.** The entire neck, front, back and sides, was erythematous. This redness varied in intensity, some small areas being almost white. The irregularity of the erythroderma produced circinate and gyrate configurations. The entire skin of the neck was thickened, the normal markings being intensified. The upper part was very slightly if at all scaly, but as the neck joined the trunk the horny layer became more pronouncedly thickened; the scales were quite adherent and dirty-brown in color.

**BACK.** Practically the entire back presented an enormously thickened horny layer of a brownish-black color. The thickened horny layer did not form a smooth plate but was composed of small quadrilateral or cuboidal horny projections, closely crowded together and removable by friction. For the most part these excrescences were placed in parallel lines. On the upper part of the back they ran downward and outward, describing a curve with the convexity pointing toward the centre of the back. They gradually became transverse as the lower lumbar region was reached. Between the shoulder blades there was a palm-sized area where the skin was smooth, only slightly thickened and a little erythematous. This area was not sharply outlined. There was a similar but smaller patch over the eighth or ninth dorsal vertebra. It was thought that these patches were areas of involution. The ichthyotic skin ended above in a collarette that was almost black in color, and which in turn gradually changed to the gyrate erythema and thickened skin of the neck. All over the back were areas where the horny excrescences had fallen off, leaving irregular areas of thickened, slightly erythematous and scaly skin.

**UPPER EXTREMITIES.** The anterior and posterior surfaces of the shoulders presented the same condition as that of the back. On the extensor surfaces of the arms the thickened horny layer was verrucous in character. The blackish, warty elevations could be easily removed with the finger nail and were also shed spontaneously, leaving, as on the back, a thickened skin that was only slightly reddened. The upper part of the flexor surfaces of the arms were verrucous, but on the lower part of this surface, together with the internal and external aspects, the skin was thickened, slightly erythematous and covered with adherent scales. The folds of the axillae presented the black, warty type of hyperkeratosis. The skin of the axillary spaces was thickened, white, moist, scaly and devoid of hair. At the posterior surfaces of the elbows the skin was thick and thrown into folds. The horny layer

was considerably thickened. The elbow flexures showed a thickened skin, slight erythema, but little if any scaling. The skin of all the surfaces of the forearms was thickened, showing an exaggeration of the normal lines. On the posterior surfaces the horny layer was considerably thickened and adherent; elsewhere there were hardly any scales. The erythema of the forearms was irregular, producing fantastic configurations. At the wrists there were a few papery scales. The skin of the backs of the hands was of a brownish-red color and markedly thickened, and slightly scaly. The wrinkling over the articulations was greatly exaggerated. There were no follicular, horny plugs on the backs of the fingers. The nails were normal in appearance, but very short, and their rate of growth was slow. The skin of the palms was slightly thickened, yellowish in color, moist and not scaly.

**CHEST AND ABDOMEN.** Near the shoulders and neck there was considerable thickening of the horny layer. Elsewhere there was little if any scaling, but the skin was thick with the usual exaggeration of the natural markings. There was a great deal of erythema which was very irregularly distributed, giving rise to a pronounced mottling. There was a brownish-black, horny areola around each nipple which was not sharply margined.

**ABDOMEN.** The appearance of the abdomen was very peculiar and striking. In the centre, extending from the ensiform cartilage above, to the pubic region below, was a large plaque of thickened skin covered with closely crowded, considerably elevated, small, black, square, horny blocks, which were arranged in transverse rows. The warty elevations could be easily removed and were also shed spontaneously. At the ensiform cartilage the plaque was narrow and not sharply margined, especially on the left side, where it gradually merged into the skin, that showed less hyperkeratosis. On the right side, under the left breast, the margin was fairly well defined. Here there was a patch of almost normal skin surrounded by a zone of erythema. The difference between the submammary regions constituted about the only lack of symmetry exhibited by the dermatosis. The margins of the lower part of the plaque were sharply demarcated and bounded by a band of pronounced erythema. On the lower abdomen, on each side of the plaque, was an area of almost normal skin, irregularly erythematous and sharply margined. It was bounded above by the hyperkeratosis of the hypochondriac region, below by that of the thighs, externally by that of the flank, and mesially by the central abdominal plaque. The irregularity of the erythroderma produced circinate and gyrate configurations which were not symmetrical in distribution, although the large areas themselves were absolutely symmetrical. The flanks and buttocks were covered with the warty excrescences already described. The pubic region, the external genitals and the crural folds were normal. The gluteal folds were markedly involved. There was practically no hair on the pubes or on the vulva. The umbilicus was normal.

**LOWER EXTREMITIES.** All the surfaces of the thighs and legs were markedly involved, although the condition was worse on the extensor aspects. On the thighs the horny excrescences assumed the characteristics as seen on the abdomen and flanks—parallel, transverse rows of brownish-black to black, square, horny blocks. In many places this appearance was destroyed by a shedding of the horny layer. The extensor surfaces of the knees were thrown into ridges on account of the thickening of the horny layer and, apparently, of the skin as a whole. It might be stated, however, that flexion of the articulations was nowhere interfered with. The skin of the popliteal spaces was erythematous, thickened and slightly scaly. On the legs, especially the extensor surfaces, the horny layer was exceedingly thick, almost black in color, and arranged in large, irregularly shaped, closely set plates. The resemblance, here, suggested the hide of an alligator. The horny plates were easily removed. The skin of the dorsa of the feet was thickened, brownish-red



and slightly scaly. The soles were normal with the exception of a few areas of yellowish hyperkeratosis. The nails were short and grew slowly.

The lanugo hair over the entire body was poorly developed.

The dermatosis could be controlled to a certain extent by scrubbing with soap and hot water and the application of salicylated oil. The thickened horny layer was removed by the use of the X-ray, but the relief was only temporary.

#### HISTOPATHOLOGY.

(Fig. 6.)

A piece of skin was removed by means of a cutaneous punch for the purpose of microscopical study. The skin was obtained from the chest where there was erythroderma and a rather thick horny layer. The material was fixed in a weak formalin solution, embedded in paraffin, cut serially and stained with hæmatoxylin-eosin, orange-G-eosin, van Gieson, Weigert's elastic-tissue stain and acid-orcein.

There was a marked thickening of the horny layer. This consisted of an adherent, lamellated, pure hyperkeratosis. The thickened stratum corneum was undulating or wavy on account of the underlying papillary projections. The hyperkeratosis extended into the follicular orifices, but it involved the follicle itself for only a very short distance. It also extended into the orifices of the sweat ducts for a short distance. Although there were areas where the surface of the epidermis was flat, for the most part the surface was

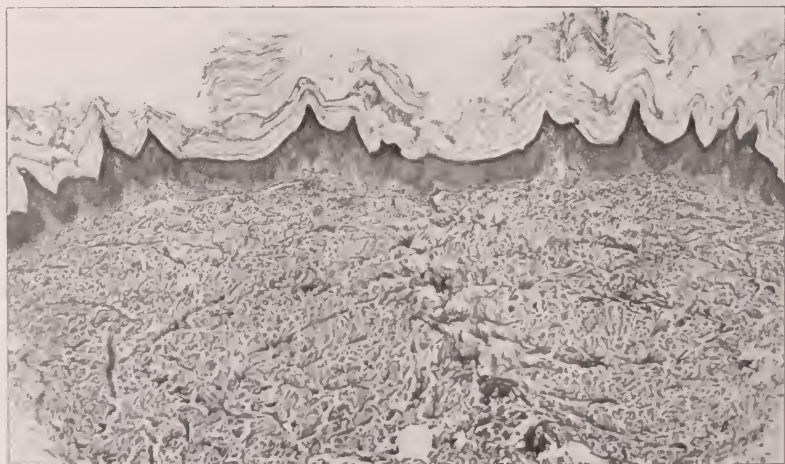


FIG. 6.

CASE 1. Zeiss-Planar obj. 20 mm. Hyperkeratosis; papillary projections; well-marked granular layer; vascular dilatation; no infiltration.



thrown into ridges and depressions. This was caused, as already mentioned, by the upward extension of the papillæ. The granular layer was irregular. In places it was almost absent. In other locations it was thickened, there being three or four layers of cells. On the whole the cells of this layer were well filled with keratohyaline granules. The prickle cell layer in places was a little thicker than normal—a moderate acanthosis. The rete prolongations were broad and there was considerable anastomosis of the pegs. In places this union of the pegs produced almost a solid plate, which would, in some instances, extend half across the microscopical field when a 16 mm. objective and a No. 4 ocular were employed. The papillæ were correspondingly long and narrow. In places the papillæ were enormously elongated and narrow. At the apex of such papillæ the epidermis consisted of not more than from two to four layers of cells, and the apex of the papillæ extended for some distance above the normal level of the epidermis. The basal layer was well formed and continuous. There was a little vacuolization of the rete cells, which was most noticeable in the basal layer. While there was very little if any œdema of the rete, this layer did not stain as well as usual; especially was this so of its lowermost portion. No mitoses were encountered. The vessels of the upper derma—papillæ, subpapillary layer and the upper part of the reticular layer—were dilated. There was a slight infiltration, limited to the immediate vicinity of the vessels. The infiltrating cell was a small lymphocyte. The connective tissue was normal. The elastic tissue was everywhere present, but it was decidedly reduced in quantity and in most places, badly fragmented.

There were no alterations in the hair follicles nor in the sebaceous glands. The coil glands presented both fatty and hyaline degeneration. In some of the coils the fatty degeneration of the cells was very marked. In other coils various stages of hyaline degeneration of the cells could be detected. In some of these the cells still retained their outline and their nuclei, and indicated a beginning hyaline change through the presence of a homogeneous protoplasm. In other cells the hyaline degeneration had advanced to a degree where the individual cell could no longer be distinguished. Still other cells presented both types of degeneration. These had lost their nuclei and consisted of homogeneous masses containing fat droplets. In many instances the cells of the coils, through swelling and displacement, produced a blocking of the lumen of the gland.

The foregoing case may be regarded as an unquestioned example of ichthyosiform erythroderma. The following case, on the other hand, would be considered by most dermatologists as falling under the heading of the so-called ichthyosis hystrix or, perhaps, ichthyosiform nævus. However, it presents features that have been recognized by the French School as belonging to ichthyosiform erythroderma and we present it as such, tentatively, at least.

The patient belongs to our friend and colleague, William B. Trimble, to whom we are indebted for the permission of publication; also for the data and the photographs.\*

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\* The patient was presented before the Section on Dermatology of the New York Academy of Medicine by Dr. Trimble on May 2, 1916. (THE JOURNAL, Nov. 1916, xxxiv, p. 815.)



FIG. 7.  
CASE 2.—Note involvement of flexures.



FIG. 8.  
CASE 2.—Note Exfoliation, especially  
on thighs.



FIG. 9.  
CASE 2.—Note exfoliation on legs.

CASE 2 (Figs 7, 8 and 9, Plate XIV). The patient was 6 years old and born in New York City. There was no similar case in the family, which was a large one. The disease was congenital. Shortly after the birth of the baby the mother noticed that its skin was red, dry and scaly. She also remarked that the finger nails were thick and long, resembling those of an adult. As years passed the skin became very thick in certain localities. The maximum of development occurred about two years ago; since then the disease has remained stationary.

When presented before the Section the child was found to be normal physically and mentally. The scalp and the scalp hair were normal. There was no hair on the body. The nails of the fingers and of the toes were like those of an adult and grew rapidly.

The face showed a very slight scaliness—hardly noticeable. There was a quarter-sized pigmented mole on the right cheek. There was a marked hyperkeratosis around the entire neck. This thickened horny layer ended rather abruptly at the junction of the neck with the trunk, but, above, it gradually faded into the slight xerosis of the face. On the trunk there was a xerosis of the chest and upper back. The centre of the abdomen was covered with grayish black scales. In the immediate vicinity of the umbilicus, on the lateral aspects of the abdomen and the pubic region, the horny layer was considerably thickened, somewhat papillomatous, blackish and rather easily removed. The upper part of the back was almost imperceptibly scaly. The lower dorsal and lumbar regions presented a xerosis, while over the sacral region the horny layer produced papillary elevations. The "hystrix" patches on the trunk, while being well defined, were not sharply margined with the exception of two quarter-sized areas over the junction of the dorsal and lumbar regions.

The eruption was most marked on the extremities and it was symmetrical in distribution. All surfaces of the arms and forearms were affected but not equally so. The flexor surface presented a blackish, papillomatous thickening of the horny layer near the axillæ, in and near the elbow flexures and at the wrists. Elsewhere on this surface the condition ranged from a very slight to a marked degree of scainess. The inner aspect of the arms, including the axillæ, showed the hystrix degree of ichthyosis, while below the elbows the skin was much less affected. The external and extensor surfaces were not markedly involved excepting at the elbows and over the deltoids. The skin of the hands was decidedly abnormal. The pronounced thickening of the horny layer at the wrist extended downward over the dorsal aspect of the thumbs. Elsewhere the skin of the dorsal surfaces of the hands and fingers was thickened and scaly. The thickening was most pronounced over the metacarpo-phalangeal and the phalangeal articulations. The skin of the palmar surfaces of the hands and fingers was decidedly thickened with a marked exaggeration of the flexor folds, but there was practically no scaling.

As with the arms, all aspects of the thighs and legs were involved. On the anterior, internal and external surfaces of the thighs the skin showed hardly more than a xerosis, excepting in the crural region and in the neighborhood of the knees, where the horny layer was very thick, papillomatous and almost black in color. This "hystrix" condition extended over the knees, shins, ankles and involved the entire dorsal surfaces of the feet and toes. The posterior surfaces of both the thighs and legs, including the popliteal spaces, were similarly affected. The skin of the soles was slightly thickened, but it was otherwise normal.

This patient was observed by us in the month of May. We noticed that the horny excrescences could be readily removed—in fact there had been considerable spontaneous exfoliation in places which caused the eruption to assume a patchy appearance. Upon inquiry, the mother stated that there was very little exfoliation during the winter, but that it did occur during



the spring and summer. In no place was there any well-defined erythema, although a slight erythema could be seen after removal of the horny layer. The patient's skin was dry with the exception of the axillæ and the palms. The mother stated that the child did not perspire.

The important clinical facts in this case are as follows: A congenital affection beginning with erythema and gradually developing into the hystrix variety of ichthyosis. A generalized thickening of the horny layer which varied from a mild xerosis to warty excrescences. Marked involvement of the flexures, also of the dorsal surfaces of the hands and feet with some alterations in the skin of the palms. An unusual development and rapid growth of the nails.

#### HISTOPATHOLOGY.

(Fig. 10 and Fig. 11, Plate XV, Fig. 11.)

The biopsy was made by Dr. Trimble, who placed the tissue in 60 per cent. alcohol and very kindly sent it to us at once. The stains used were as follows: hæmatoxylin eosin, orange G-hæmatoxylin, Satenstein's stain (formula to be published soon), van Giesen's stain and Weigert's elastic tissue stain.

Under low power certain alterations were at once noticeable. The horny layer was enormously thickened. The rete, as a whole, was thinned, but in places it was somewhat thickened. The subcorneal surface of the rete was very irregular, due to the elongated papillæ. Even with this very low power an apparently marked dyskeratosis could be seen and, also, what appeared



FIG. 10.

CASE 2.—Zeiss-Planar obj. 20 mm. Hyperkeratosis; papillary projections; dyskeratosis; vascular dilatation; very slight infiltration.



to be numerous baloon or vacuolated cells. The derma was retracted, that is, the epidermis and subcutaneous tissue were very close together. The coil glands were unusually close to the epidermis.

A more intensive study revealed the following: The markedly thickened horny layer consisted of a pure hyperkeratosis which was in direct contact with the granular layer, the stratum lucidum being absent. Numerous whorls were noticed in the corneus layer. The horny tissue extended downward into the rete between the papillæ, while the apices of the papillæ extended upward into the stratum corneum, thus forming an extremely irregular line between the rete and the corneus layer. The horny layer also extended into the hair follicles, which were considerably dilated. Cross sections of these follicles were suggestive of horny cysts.

The rete, in places, was compressed, while in other locations it was quite thick, although nowhere was it acanthotic. It was, of course, especially thin over the papillæ, where it was often reduced to a very few layers of cells. In the comparatively thickened portions the thickening did not seem to be due so much to a numerical increase in the cells as to changes in the cellular elements. In places the rete pegs had anastomosed to form long, flat plates. In other places the pegs were pretty well preserved.

The granular layer was nowhere absent, but it varied in thickness from a single layer of cells to two or three layers, and for the most part the cells were well supplied with keratohyaline granules. Occasionally cells without nuclei were encountered. The basal layer was everywhere intact. The transition from palisade to mid-rete cell was abrupt.

The most noteworthy alterations were found in the centre of the rete. Here, the cells were widely separated, the cytoplasm was faintly stained, the cells were round and they were devoid of prickles. Between the cells there was a finely reticulated granular substance which seemed to be, in tinctorial properties, identical with the cytoplasm. In places granules of keratohyaline were scattered throughout the rete. Some of the cells possessed two distinct nuclei. In some instances the nucleus occupied only a small part of the cell and the cytoplasm was stained very faintly. In others the cell was almost entirely filled by the nucleus. The chromatin fibres of the nuclei were finely granular. An occasional mitotic figure was encountered. Scattered throughout the rete, but most numerous in and near the granular layer, were cells which contained a clear space, in the centre or at the periphery of which the nucleus was situated. These cells were seen in all stages of development. In some instances there was a faintly stained or a perfectly clear, narrow zone around the nucleus. Others showed a large vacuole with a compressed cytoplasm and, finally, there were cells in which the entire cell body was occupied by the clear space.

**DERMA.** The papillæ were narrowed and elongated and showed moderately dilated vessels. The subpapillary vessels and the lymph spaces were all dilated. The deeper vessels were thickened. In some of the sections there was a slight perivascular, small round cell infiltration.

The connective tissue was rather compact and showed tinctorial changes suggestive of some form of degeneration. The deep connective tissue was pretty well broken up. The derma was very narrow, the fat, in places, almost reaching the epidermis.

The coil glands were unusually superficial and were surrounded by very little supporting substance. For the most part there were no noteworthy changes in the glands, but in a few sections the cells showed alterations suggestive of hyaline degeneration. A large number of serial sections were examined, but only two rudimentary sebaceous glands were found which were situated in the walls of the hair follicles. The hair follicles were markedly dilated and filled with horny tissue. Their walls showed the same alterations noted in the rete, only to a lesser degree.

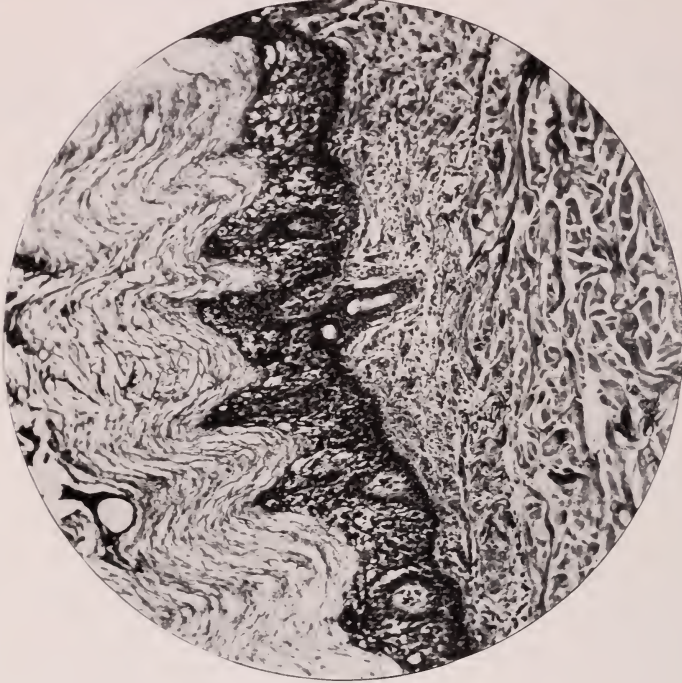


Fig. 12.  
Zeiss obj. 8 mm., co. oc. 4. From a case of linear verrucous naevus, for comparison with Fig. 11.

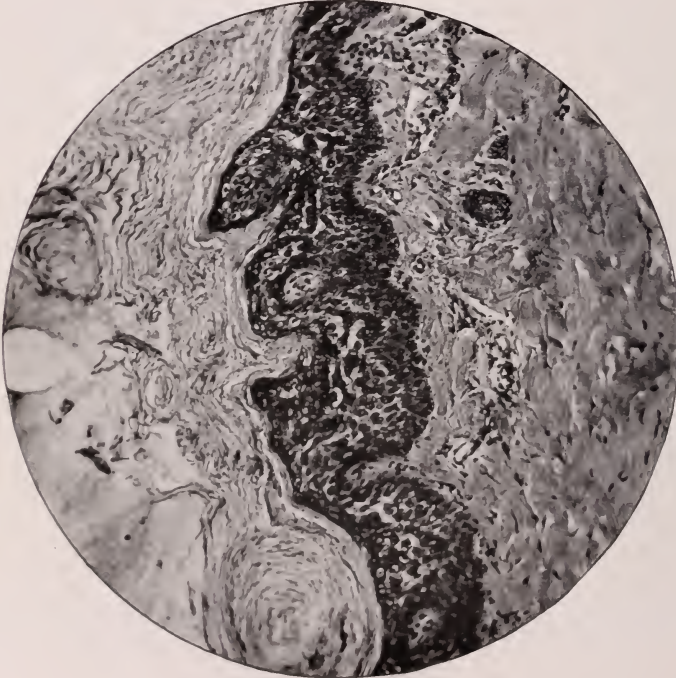


Fig 11.  
Case 2.—Zeiss obj. 8 mm., co. oc. 4. Hyperkeratosis with whorl formation; papillary projections; dyskeritosis; ballooning cells; vascular dilatation; slight infiltration.

The arrectores, in some sections, appeared degenerated. Elastic tissue was entirely absent in the neighborhood of the coil glands and in the papillæ; elsewhere it appeared to be normal.

The impression gained from a histological examination of this material is that we are dealing with a congenital anomaly of cornification with secondary degenerative changes in the epidermis and in the true skin.

#### BULLOUS TYPE.

CASE 3. (Fig. 12, Plate XVI.) A. 1; female; age, 7; born in the United States.

FAMILY HISTORY. The patient's brother (Case 4) was similarly affected. No other member of the family was afflicted with the same disease. The mother's Wassermann reaction was strongly positive.

PAST HISTORY. The child was red and scaly at birth. Later, the redness became less noticeable and the scaliness more marked. During the first three years there were occasional vesicles and bullæ on the forearms, hands, legs and feet. The eruption improved during hot weather, but there were never any sudden remissions or exacerbations. The nails grew rapidly; however, the hair grew slowly.

EXAMINATION. The girl was extremely underdeveloped mentally and physically. The Wassermann reaction was positive. The eruption was universal. The scalp was scaly (pityriasis). The skin of the entire face, including the eyelids and ears, was atrophic (parchment-like), wrinkled, reddish-brown in color, and slightly scaly. The trunk and the extremities presented a picture of ichthyosis vulgaris, with the following exceptions: there was a slight but distinct underlying erythema; the neck, the axillæ, the elbow flexures, the popliteal spaces, the crural region, in fact every flexure of the body was involved. Furthermore, the maximum of development was in these locations (warty or papillomatous thickening of the horny layer). The forearms, backs of the hands and feet were only very slightly scaly, but here the skin seemed to be thickened with an exaggeration of the natural lines as seen in lichenification. The skin of the palmar and plantar surfaces was dry, parchment-like, fissured and slightly scaly. The mucous membranes were normal. The patient never perspired.

CASE 4. (Fig. 14, Plate XVI.) J. I.; male; age 10; born in the United States; brother of Case 3. The Wassermann reaction was positive.

This case was so similar to Case 3 that only a few additional words will be necessary. The boy was underdeveloped physically and mentally, but to a lesser degree than was his sister. It might be stated that in both instances there were stigmata suggestive of hereditary lues. The eruption, as in Case 3, was universal and congenital; all the flexures were involved, but, unlike his sister, the maximum of development was not in these locations. As a matter of fact, with the exception of a faint erythema, the appearance was that of a universal ichthyosis vulgaris. The condition on the hands and feet was a little more severe than in Case 3. The face, while involved, was not as markedly affected as was that of his sister. The mucous membranes were normal. The scalp was slightly scaly. The hair was normal in appearance and growth. The nails grew more rapidly than normal. There was no perspiration. There was no lanugo hair on the body. The same history of a marked erythema early in life and bullæ appearing on the extremities during the first few years obtained in this case. The eruption improved a little in summer and grew worse in winter. The mother stated that she thought that there had been a slight improvement during the last three years.

In both Case 3 and Case 4, X-ray was applied to the hands with marked temporary improvement. A biopsy could not be obtained in either of these patients.

(To be continued.)



PLATE XVI.—To Illustrate Article on Erythrodermie Congenitale Ichthyosiforme,  
by GEORGE M. MACKEE, M.D., AND I. ROSEN, M.D.



FIG. 14.  
CASE 4.—Note involvement of neck, elbow flexures and pubic region.



FIG. 13.  
CASE 3.—Note parchment-like skin of face and involvement of axilla.



## CLINICAL REPORT.

## A UNIQUE CASE OF FAVUS.

BY R. A. MCGARRY, M.D., ANN ARBOR.

Instructor in Dermatology and Syphilology, University of Michigan.

In a review of the literature one is impressed by the fact that so few cases of favus exhibit any tendency to involve other than the sites of predilection, viz., the scalp and the non-hairy portions of the body. Cases involving the other hairy surfaces are very exceptional and but two cases have been described in which lesions of the mucous membranes were noted. Kundrat<sup>1</sup> reported a case in which at necropsy, the fungus was demonstrated in the œsophagus, stomach and intestines. Glück<sup>2</sup>, in a second case, found patches on the outer surface of the prepuce. Mewborn<sup>3</sup> has recorded a case in which the scrotum was involved. Plaut<sup>4</sup> asserts that in children, body favus is sometimes conveyed to the eyelashes, but he cites no cases. Leloir and Vidal<sup>5</sup> found but one case, occurring in a man forty years old, in which the pubic region was involved.

The peculiar distribution of the lesion in the case herein described in which the scalp, eyebrows, eyelashes, pubic region and glabrous skin were at the same time involved, renders the case unique and worthy of report.

## CASE REPORT.

Patient, "O. L.", age 26, Armenian, laborer. He entered Dr. Wile's service at the University Hospital on November 2nd, 1916. The previous history was negative. The Wassermann reaction was negative. The patient states that the trouble had begun three years ago, 1913, six months after he arrived in this country. He described it as having first begun with itching in the scalp, later scales appeared and finally thick crusts. The scalp first became involved, followed by lesions on the eyebrows and eyelashes and skin. The pubic region remained free for the first six months, following the first appearance of the disease in the scalp.

Upon presentation in this clinic, the patient's hair was long, lusterless in appearance and filled with loose, white, detached scales. After removing the hair, the scalp presented irregular masses of thick, yellowish mortar-like accumulations. These thickly crusted areas were pierced by a few hairs. When a scutulum was dislodged from its bed there was revealed a reddened, somewhat shiny, atrophic pit or depression, which in instances exhibited some bleeding. There was a pronounced mousey odor to the scalp.

The lesion occurred in the eyebrows and eyelashes as dried, adherent crusts, of a dirty, grayish-yellow color, and distinctly more heaped up on the nasal side of the eyebrows than on the outer side.

<sup>1</sup> KUNDRAT. *Wein. med. Blätter*, 1884, p. 15.<sup>2</sup> GLÜCK. *Archiv. f. Dermat. u. Syph.*, 1899, xlviii, p. 339.<sup>3</sup> MEWBORN. *Jour. Cutan. Dis.*, 1903, p. 11.<sup>4</sup> PLAUT. *Handbuch der Hautkrankheiten*, Mrazek, iv, p. 9.<sup>5</sup> La Pratique Dermatologique ii, p. 631.

The pubic region was not entirely involved. The eruption appeared to have started at the base of the penis and to have spread concentrically over an area with a diameter of about three inches. In this region the crusts were more superficial, being flat, button-shaped, with hairs penetrating them. The hair was diffusely thinned over the areas involved.

Over the glabrous skin, but one small lesion was found, which may be noted in the accompanying photograph. This was a pin head sized, typical, yellow scutulum on the lobe of the ear.

The Achorian Schönleini was demonstrated microscopically in the scutula and in the hairs, from all regions involved.

Cultures on glucose agar gave a positive growth.

I wish to express my appreciation to Dr. U. J. Wile for the privilege of reporting this case.

PLATE XVII.—To Illustrate Article on Favus.

by R. A. MCGARRY, M.D.



Showing lesions on scalp, pubic region, eyebrows and eyelashes.

# SOCIETY TRANSACTIONS

## NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, Nov. 28, 1916.

JAS. C. JOHNSTON, M.D., *President*.

### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient was a little girl, nine years old. She had two lesions, one on the forehead, about the size of a silver quarter, and the other involving the upper and lower eyelid. The lesions were pustular and crusted, and had existed for seven months. The whole lid was swollen and red and exhibited along the free border a moist granulating surface, freely exuding pus. The smears from the pus showed nothing and the Wassermann test was negative. The histological picture showed infiltration in the upper part of the corium, round cells, mast cells, polynuclears and giant cells.

### DISCUSSION.

DRS. WINFIELD AND POTTER agreed with the diagnosis of pyogenic granuloma. Dr. Potter said that the child might be tuberculous, but that the lesions themselves did not appear tuberculous.

DR. KINGSBURY said that the lesions on the temple seemed distinctly tuberculous, and from that he argued that the whole condition was tuberculous.

DR. WHITEHOUSE said that on a cursory examination the case appealed to him as being a tuberculous condition, rather than a simple granuloma. The lesions on the right cheek and temple with indurated borders and lack of ulceration, and the small indurated points beginning outside of one or two patches, together with the history of the case, all inclined him to consider it a case of skin tuberculosis. He thought the histological picture would suggest that diagnosis, and was inclined to favor that rather than anything else.

DR. HEIMANN said that he had had no opportunity to study the case closely, but that he had the idea that it was a case of tuberculosis. Other conditions to be considered were sporotrichosis and blastomycosis. The history given by Dr. Trimble would fit any of the three. He did not think that giant cells were found in pyogenic granuloma, since it was simply granulation tissue. If another biopsy were made from the lesion on the temple one might reach a definite conclusion, and it might be possible to rule out blastomycosis and sporotrichosis. The eyelid was suggestive of eczema scrofulosorum. There was no definite evidence that the disease was tuberculous in origin, yet it was associated with tuberculosis. He advised that it be treated with tuberculin and studied carefully. He then thought of blastomycosis and tuberculosis in the order named. The moist granulating appearance bore some resemblance to blastomycosis, but the lesions did not conform to any type of skin tuberculosis that he was familiar with. It was certainly not lupus vulgaris, scrofuloderma or tuberculosis orificialis; it did not seem verrucous enough to be called tuberculosis verrucosa, and the location was also much against that diagnosis; if it was tuberculosis, it was a new clinical type. This probability was considered, however.

A biopsy had been made, but it was not very successful. It was taken from the edge of the forehead lesion with a skin punch, but on picking it up with the forceps it was crushed, the tissue being very friable. With what remained, they succeeded in getting some specimens, but they were not especially satis-

factory. The result of the histopathological examination had been stated in the presentation of the case. So far as he could determine from the unsatisfactory specimens, there were no blastomycetes in the tissue. If the father's consent could be obtained, he would make another biopsy from the forehead lesion.

He had not thought of bromide, but the suggestion appealed to him and he would make inquiries. The father said the child had been taking a tonic. The speaker said he was not sure that giant cells were sometimes found in dermatitis vegetans.

MORPHEA. Presented by Dr. G. H. Fox.

The patient, C. M., was a man 26 years of age, apparently in good health. The disease had begun on the forehead to the right of median line, about six years ago, and had gradually extended back in a band-like patch on the crown. The skin was thickened, slightly scaly and nearly devoid of hair. There were some characteristic yellowish-white areas, and the superficial veins were quite prominent. On the right shoulder and arm the disease had appeared later. There was a marked pigmentation of the skin with some reddened or violaceous areas, and a number of faint whitish macules. At one spot the skin was thickened and presented a smooth ivory surface.

#### DISCUSSION.

Dr. WISE said that the presence of the pigmented patch was an interesting feature of the case.

Dr. SCHWARTZ said that he had been interested in the case also, because since Dr. Johnston had pointed out the connection between morphea and scleroderma he had been observing these cases rather closely. He had half a dozen cases under observation, all of them showing increased glucose tolerance. Some cases could take as much as 450 grams of glucose without passing glucose in the urine. All had been given pituitary extract, and though none of his cases had been under treatment any great length of time, all showed definite improvement.

In reply to an inquiry from Dr. Sherwell as to how much pituitary extract was given, the speaker said that he used the Burroughs and Welcome tablets, two grains each, beginning generally with six grains daily, and increasing the dose gradually, in some cases to eighteen grains daily.

Dr. HELMANN said that he would like to confirm what Dr. Schwartz had said. A case had been referred to him by a New York colleague, with lesions identical with those in the present, which had existed for a year or two. He had suggested pituitary extract treatment, and this colleague had reported that the lesions had practically disappeared.

Dr. HOWARD FOX had always considered the treatment of scleroderma to be practically hopeless. He was familiar with the favorable report of Dr. Johnston, who had used pituitary extract. He had begun to use this in a case with multiple lesions (recently shown before the Society), but the patient had not taken the medicine with any regularity. The speaker had recently treated two lesions of morphea with carbon dioxide snow, following a suggestion of Dr. Wallhauser, who stated that he had frequently removed the patches with this method. Sufficient time had not elapsed, however, to report the result in this case.

Dr. POTTER said that an interesting point to him was the way the condition started as areas of pigmentation, rather than as an erythema, as most of them do.

Dr. WINFIELD said that the case reminded him of one that he had seen several years before. The patient was a woman, and the patch began on the face,



apparently the regular history of morphœa, with a pigmentation which went on gradually to a generalized scleroderma. All sorts of treatment were tried in vain. Finally she died, and at autopsy it was found that she had had a tuberculosis of the suprarenals. It was preceded by a pigment rather than an eczema. Referring to Dr. Wallhauser's treatment with carbon dioxide snow, Dr. Winfield said that Dr. Wallhauser had told him of a case that had been treated satisfactorily, and soon after that he himself had a patient with one or two small lesions, and they yielded to one application of the CO<sub>2</sub>.

Dr. WISE asked if the extract was made from the whole gland or from only certain portions of it.

Dr. TRIMBLE said that after he heard a number of times about Dr. Johnston's case, he had tried pituitrin with some of his patients; and had noticed that they could not take above 1 grain three times a day, without uncomfortable symptoms; as soon as the dose reached 2 grains there would be symptoms of headache, fainting attacks, etc. Two of the cases were sclerodactylia, one was a diffuse scleroderma. At present there was a case of the diffuse form in the Skin and Cancer Hospital. The patient was a middle-aged woman, with numerous small lesions all over the abdomen, back and arms, and some large plaques. He had marked off several of these patches, and started to use the preparation again; it had the same effect; the dose could not be increased; as soon as two grain were given the patient had headaches, etc. He then began anew with a special preparation (anterior lobe), and he thought the lesions were improving in some places, the hardness had disappeared, and the skin felt smooth and almost normal. The preparation seemed to be doing some good in this instance.

Dr. SHERWELL said he had been using pituitrin for a long time, and in a great number of cases, especially of psoriasis. He had never had the opportunity of trying it in morphœa. He had only one case in which the symptoms described by Dr. Trimble had resulted. The cases of psoriasis in which it seemed to be of most benefit were those characterized by overgrowth, excessive desquamation, etc. He had used by preference Burroughs and Wellcome's preparation, but not to exclusion of other makes.

Dr. G. H. Fox said that if he had further opportunity of treating the patient he would try the pituitary extract and locally, carbon dioxide snow. On one patient with a small patch on the nucha he had tried radium, and the resultant dermatitis at the time appeared to have almost if not wholly destroyed the patch. He would look up this patient and see what had been the ultimate result of the treatment.

#### HYDROA VACCINIFORME. Presented by Dr. TRIMBLE.

The patient was a young boy 8 years old. He had suffered from the affection for two and a half years. His past history was not typical of a case of this kind, his mother claiming that at the first outbreak the lesions were generalized over the body, though they were much more numerous on the face and forearms. It was also stated that the disease never disappeared entirely, although it was much improved in the summer. The lesions were more numerous in the winter. The eruption itself consisted primarily of a vesicle which became pustular, finally crusting. The locations were the forearms and the sides of the face, including the ears. There were no lesions on the body when presented. The lesions on the forearms gave evidence of future scarring, but there were no scars on the face.

#### DISCUSSION.

Dr. HOWARD FOX said that with the exception of the absence of scarring, the patient presented a condition very similar to one in a patient formerly

treated at the Skin and Cancer Hospital and at the Vanderbilt Clinic. This was a young Russian boy, who had had frequent attacks of vesicles upon the face, ears and backs of the hands for a number of years, the lesions being eventually followed by scars. He did not seem to have been benefited by treatment.

DR. WILLIAMS said that the case was very much like that of a young boy whom he had seen some years ago. Under general hygienic treatment and considerable doses of arsenic the condition improved considerably.

#### SYRINGOCYSTOMA. Presented by DR. HOWARD FOX.

The patient, Emma W., was a full blooded negress, 34 years old, born in the United States, a cook by occupation. Her mother and six brothers and sisters were living and well. Her father had died of "asthma" and two brothers had died of tuberculosis, according to her statement. One of her sisters suffered from a similar eruption on the chest. The patient had had measles and whooping cough as a child. Her menses began at 13 and three months later the eruption appeared suddenly and without apparent cause. At first she thought it was an attack of "hives," owing to the presence of itching and the suddenness of its onset. From its appearance to the time of presentation, *e. g.*, 19 years ago, the eruption had remained practically unchanged, and with the exception of the first day or so it had never caused any subjective symptoms. On examination she presented an eruption confined to the face, neck, clavicular region and chest. The lesions, which were estimated to be about a thousand in number, varied in size from a pin head to a split pea, the smaller ones being situated upon the face and the larger ones upon the chest. They were mostly discrete, though some of them were closely aggregated. They were round, elevated, hemispherical, firm and of a darker color than the intervening normal skin. There was no scaling or crusting, no objective evidence of itching and no scarring. The patient was well nourished and appeared to enjoy perfect health.

A microscopical examination by Dr. Walter J. Heimann showed the following:

"The section shows numerous circular spaces of various sizes, the walls of which are made up of from one to five layers of flattened cells of apparently epithelial character, and the lumina of which contain a mass of cell detritus. In some of the spaces the walls are thicker at one segment than at the rest of the periphery, so that the appearance of a signet ring is imparted. In addition to these circles many strands of epithelial cells resembling undeveloped sweat ducts may be found simulating the appearance observed in infant skin before the sweat organs are matured. Nowhere is there any evidence of connection between the features described and the hair follicles or sweat ducts. No signs of inflammation exist, and the epidermis and papillary body are normal."—Histological Diagnosis—Syringocystoma.

#### DISCUSSION.

DR. MACKEE said that the patient's eruption was almost exactly similar to that of a patient he had had under observation about a year ago. The patient was a negress, with lesions of syringoma on the chest and back. There was not quite as much pigmentation as in Dr. Fox's case. The speaker also had another example of syringoma under observation. The patient was a young white girl, with numerous lesions scattered over the trunk, arms and back. The eruption in this case was very similar to a case reported by Ormsby, and—as in Ormsby's patient—the eruption was disappearing under the influence of the X-ray.

The speaker had examined the histological preparations from his two cases, Dr. Fox's case, and also material from a number of patients where the lesions were limited to the face, and where the clinical diagnosis was benign cystic epithelioma or trichoepithelioma. In one instance, in a lesion from the face, the disease, histologically, was adenoma sebaceum. All the others, with one exception, corresponded to the so-called benign cystic epithelioma. The one exception proved to be a trichoepithelioma, in which a definite connection between the epithelial nests and the hair follicles was established. With these two exceptions there was no essential difference in the histological findings in the cases supposed to be benign cystic epithelioma and those that were labelled syringoma. There were all sorts of epithelial formations—solid masses of cells with or without off-shoots, cell nests in different stages of what appeared to be cystic degeneration, cavities of various shape and size, lined with a single or double layer of cells, linear or tubular epithelial bands with an apparent lumen, etc. Most if not all of these varieties could be demonstrated in any given case. Serial sections were carefully prepared and studied, but with the exception of the one case of trichoepithelioma (Fordyce's case) it had been impossible to determine the derivation of the epithelial growth, and for this reason the speaker was in accord with the authors who regarded these diseases, for the most part at least, to belong to the *nævi*. Whether the embryonic, misplaced cells were derived from the sweat apparatus, from the pilosebaceous apparatus, or from the epidermis had not been determined. Various authors had placed different interpretations upon the histological picture. Because the epithelial growths simulated coil ducts, it was labelled syringoma, if they resembled lanugo hair follicles, trichoepithelioma, etc. The embryonic origin of the epithelial cells might, of course, influence the later histological picture, but the speaker thought that the evidence at hand was not sufficient to remove these cases from the *nævi*. Another possibility to be considered was that the cells had had their origin from adult or infantile epithelial structures, and then became snared off, epithelial nests resulting. The speaker was under the impression that not in a single case of syringoma had the derivation between definitely determined. In one of Ormsby's cases there was a large wild mass of epithelial or endothelial cells, through which passed a coil duct. The appearance suggested that the cells were derived from the coil duct, but no actual connection could be established.

In this country, at least, it had become the custom to apply the term syringoma, or its various synonyms, to an eruption occurring on the trunk or on the extremities; and benign cystic epithelioma, trichoepithelioma, etc., to lesions limited to the face and scalp.

DR. CLARK told of a colored woman in Bellevue with a typical picture of the case just presented. She died in the hospital wards of peritonitis.

DR. HEIMANN remarked that he did not know where to begin to discuss these cases. There were some eleven to thirteen synonyms applied to the condition; and all types looked alike clinically and anatomically. It was merely a matter of speculation to attempt from such subjective factors as we possessed to draw any conclusions as to what the process really was. It was described by Koebner as lymphangioma tuberosum multiplex. He probably assumed that these cysts were lymphatic dilatations, but there was no conclusive evidence of this. Jacquet called it hydradenoma eruptif, assuming that it was a cyst due to some obstruction of the sweat ducts. Then other names sprung up, such as epithelioma adenoides cysticum, syringoma, syringocystadenoma and trichoepithelioma, given by those who believed that the lesion sprang from the hair structures, and another group who considered them colloid *nævi*.

We were certainly dealing with an anomaly in the structure of the skin. It was not inflammatory; it was not neoplastic, in the sense of a wart or epithelioma. Actually one saw in the microscope a few circular lumina lined with two or three rows of cells, which might have been considered epidermal.



Sometimes at one pole of the ring one saw a local increase in the number of cell rows; in other areas of the sections there were worm-like looking series of cells, reminding one very much of the unformed sweat ducts in a baby's skin, before the sweat apparatus was perfectly formed; but nowhere could be seen in any of the sections, any communication of any of these structures with the sweat apparatus or pilo-sebaceous system; so that one was forced to conclude that since it was not a neoplasm or an inflammation, it must be an embryonal disturbance. It might have been derived either from the embryonal sweat or the pilo-sebaceous apparatus. It did not, however, look like incompletely formed hair, nor was there any abortive picture of the mature sweat duct, so that the only possible theory was that of its origin from the embryonal sweat apparatus. There seemed to be some support to this theory in their resemblance to unformed sweat ducts. If this were true, we could account for the fact that cysts formed on account of the incomplete effects of the embryonal sweat apparatus to approximate the mature. In the broadest conception of *nævi*, namely that *nævi* are due to any congenital anomaly, even though the expression thereof might not be gained until adult life, we would be able to class these cases with *nævi* in the sense indicated by Dr. MacKee. The speaker said that this concept of *nævi* would enable us to include syringomas, and that they would thus be properly classified. He felt sure that such an explanation was both comprehensive and conformed with facts; at least in so far as with our present knowledge we could understand the facts.

DR. MACKEE said that many authors thought that the cysts were due to a secretion from the cells that were supposedly derived from the coil glands; that the tubules were the result of attempts of highly specialized cells to produce coil ducts, hair follicles, etc. Of course this might be true, but these various formations were found in the different clinical types. Even in Fordyce's case of true trichoepithelioma, the histological specimens of which the speaker had studied, there were cysts and tubular formations that were exactly similar to those found in syringoma. A complete study of these cysts in several sections disclosed cell masses in various stages of degeneration, with more or less débris in the resulting cavity.

DR. TRIMBLE said that he had seen several cases of this disease, but he had only one of his own. His case was a little different from the others; the lesions were confined to the chest and anterior aspects of the shoulders, and they were not so papular as in the case shown. In other words, they did not protrude so much, but seemed to be deeply placed in the skin; and had a distinct yellow tinge not unlike a very mild xanthoma color. The patient was only under observation for a short time; he succeeded, however, in making a biopsy, and Dr. Heimann had made the sections. It was a beautiful example of the so-called lymphangioma tuberosum multiplex. From his clinical experience, and what he had gathered from the literature, he had been in the habit of calling the cases with lesions practically confined to the body, which were slightly yellow and larger than the ones on the face, the type of Kaposi; lymphangioma tuberosum, multiplex; and those cases with face lesions that were distinctly papular, small, and did not have the yellow color, multiple benign cystic epithelioma. The sections made by Dr. Heimann had been studied at the Bellevue school. Dr. Heimann thought the condition came from the sweat apparatus; but in his own opinion several of the cysts were connected with the sebaceous glands; in fact there was sebaceous cell material in the cyst; whether they originated there was a question. Dr. Heimann did not agree with this opinion, but one of the other pathologists did agree. There were several of these cysts around or near the fragment of a sebaceous gland.

DR. HEIMANN, replying to Dr. Trimble, said that he simply wished to emphasize the fact that he had not agreed with Dr. Trimble as to the structures in question being sebaceous glands.



## CASE FOR DIAGNOSIS. PYOGENIC ONYCHIA? Presented by DR. MACKEE.

The patient, F. S., was a healthy single girl, 19 years of age. When she was 3 years old she had a painful disease of the nail of one finger. This resulted in the loss of the nail and considerable sloughing of the soft tissue at the end of the finger. The trouble was cured by a thorough curettage and cauterization. A few months later another finger was attacked and treated in the same manner and with a similar result. In the next two years, three more fingers were similarly affected and treated. There was no further trouble until two months ago, when the disease appeared again, this time on the middle finger of the left hand. The disease began with intense pain under the nail. The soft tissue around the nail became red and swollen. After a few days pus would exude from under the lateral surfaces of the nail, which had become raised by the underlying ulceration and purulent exudation. Later, the nail itself would shed, leaving an uneven, discharging surface. But before the nail fell out the lateral edges would become markedly eroded.

When presented before the Society, the nail matrix was slightly exudative, crusted in places, and with the general appearance of uneven granulation tissue. The nail was missing. Most of the inflammation and pain had subsided. The Wassermann and the tuberculosis complement fixation reactions were negative. Scrapings from the nails were negative microscopically and culturally. The nails were missing from several of the fingers, and the ends of these fingers were slightly atrophic. Improvement in the affected finger had followed a single erythematous dose of the X-ray. The speaker had made a tentative diagnosis of pyogenic onychia.

## DISCUSSION.

DR. SHERWELL had a case in a young married lady almost identical in site and appearance of lesion with that shown. He had in a routine way been treating the affected parts with salicylic and ammoniated mercurial salve, with slow improvement resulting; becoming impatient, he had directed the patient to use an emery powder file, and had cauterized with somewhat diluted acid nitrate of mercury. Three of the nails and matrices had done well, but the fourth, on the little finger, from over application, he thought, would result in loss of matrix and scar tissue would result, as in the little finger of the case shown. He had thought it possible in that case that there might be some luetic condition (old or congenital), but Wassermann had been negative. He was content with the progress. He did not think for a moment that the condition was a tropho-neurosis.

DR. WISE said that it was to him a very puzzling case. He had in mind the possibility of syringomyelia, but the neurological examination proved negative.

## CASE FOR DIAGNOSIS. LUPUS ERYTHEMATOSUS? Presented by DR. MACKEE for DR. FORDYCE.

The patient, Mrs. I. C., was presented before the Society about a year ago. At that time she presented several peculiar lesions on the backs of the hands, which consisted of dime-sized areas of oedema surrounded by excoriation. There was some uneven discoloration, and the diagnosis at that time was erythema iris, and the histological examination tended to confirm this diagnosis. These lesions disappeared in a couple of months, without leaving scars. A few weeks later new lesions developed on the hands and forearms which bore a very strong resemblance to erythema iris. This eruption also involuted in a few weeks. About six months ago, a quarter-sized, erythematous and

oedematous lesion developed on the external surface of the left arm, and a similar one appeared on each cheek. These gradually assumed a verrucous appearance, becoming rough, elevated, infiltrated and less inflammatory, and were still present when the patient was presented before the Society.

A piece of tissue was removed from the arm lesion. Histologically there was a marked hyperkeratosis and parakeratosis, and a very pronounced acanthosis. The hair follicles were markedly involved. In the derma there was an enormous dilatation of the vessels and lymph spaces. The collagen was swollen, and the elastic tissue was fragmented and diminished in amount. There was a marked diffuse lymphocytic infiltration which showed a strong predilection for the vicinity of the hair follicles. The speaker said he could not make a histological diagnosis, but the microscopical picture was suggestive of lupus erythematosus.

The patient had received twenty or thirty autoserum injections without any effect. The lesions had improved under mild applications of the solid carbon dioxide.

The Wassermann reaction was negative, as, also, was the complement fixation test for tuberculosis. The von Pirquet test was positive. Finally guinea pig inoculation was negative.

#### DISCUSSION.

DR. HEIMANN said that it was a very puzzling condition. Clinically it impressed him as lupus erythematosus.

DR. WHITEHOUSE said that if it was a lupus erythematosus the lesions were very atypical. Nor could he reconcile the tumors that the patient had had and still had—one above the elbow—with any of the usual characteristics of the erythema multiforme group. She had had a positive tuberculin test, and he wondered if this were not an anomalous type of tuberculosis. The lesion on the cheek looked like a form of tuberculosis; the infiltrated lesions showed some resemblance of erythema induratum. It was difficult for him to regard this as a case of lupus erythematosus.

DR. POTTER said that the lesions on the face and eyebrows had the clinical appearance of lupus erythematosus. The lesions on the forearms which the patient had previously and those that were present then, were certainly indurated nodules, making one think of erythema induratum. He would not attempt to make a positive diagnosis.

DR. TRIMBLE said that he had no definite diagnosis to offer, but was interested in the condition of the eyebrows, which seemed to resemble ulerythema; and wondered whether it was due to the general skin condition which she had. He also said that during the examination it had occurred to him, from Dr. MacKee's description of the previous lesions, that we might be dealing with a case of lupus erythematosus disseminatus. The hands and arm lesions in cases of disseminate lupus erythematosus resembled very much erythema multiforme; they even had the play of colors in them at times. He had under his care a case of typical disseminated lupus erythematosus; and one or two of the lesions on the backs of the fingers were the counterparts of the iris type of erythema multiforme. We knew that the disseminate variety of lupus erythematosus either came on idiopathically or developed from the fixed type. The case discussed might be in the reverse order, appearing first as immature lesions of the disseminate variety, some of which later became fixed.

DR. MACKEE said that he had considered the possibility of erythema multiforme, which had been ruled out on account of the verrucous lesions. Tuberculosis verrucosa cutis had been considered, but not very seriously, because there were no tubercle bacilli and the guinea pig inoculations were negative; also vegetating dermatitis, following erythema multiforme perstans was a pos-

sibility, but not a probability on account of the histology and because of the stubbornness of the lesions to various local applications. Some one mentioned Bazin's disease. This could be ruled out, the speaker thought, because the lesions did not begin in and did not involve the subcutaneous tissues. It was a rather superficial affection. In addition, the histology was totally unlike that of Bazin's disease or any other member of the true tuberculosis group. Lupus erythematosus often began with œdematous lesions, and the disease was occasionally verrucous; and the speaker thought that this was the most likely diagnosis.

PURPURA FOLLOWING USE OF A RUBBER BANDAGE. Presented by Dr. HOWARD FOX.

The patient, L. Z., was a man 57 years of age, born in Germany, formerly a porter by occupation. He had always enjoyed good health except that for the past fifteen years he had been unable to work on account of marked impairment of vision. An eruption had appeared four years ago on the left leg, disappearing under treatment in six months. Five months ago the eruption reappeared first on the left and then on the right leg and became red, scaly and itchy. He had since been treated at the Harlem Hospital by various salves, a diagnosis of eczema having been made. Three and a half weeks ago he was advised to wear a rubber bandage on the left leg on account of moderate varicose veins, the eczema having then disappeared. After wearing the bandage for twelve days (removing it at night, the present eruption appeared suddenly. It consisted of a profuse petechial eruption upon the left leg, from the knee to the ankle, extending around the entire circumference of the leg. He complained of slight itching. There were moderate varicose veins of the left leg. There was no œdema. The heart appeared to be normal. The urine showed a slight trace of indican, but no other abnormality. An examination of the eyes by Dr. Alfred Braun showed the following: "Slight opacity of each cornea. Pupils react normally but slow. Left pupil larger than right, round, regular. Double choroiditis with brown pigmentation. Optic nerves fairly normal. Cause probably specific." There was no history of syphilis and no other signs or symptoms of the disease. The Wasserman was negative. The patient was well nourished and robust in appearance.

DISCUSSION.

Dr. CLARK said that when he was Dr. Bulkley's assistant he had seen just such a case after using a rubber bandage on a varicose leg.

Dr. MACKEE said that he could not understand how an elastic bandage, if properly applied, or a well-fitting elastic stocking, could produce a purpura. Of course, if the pressure was considerable near the knee and inconsiderable below, he could conceive of the production of this phenomenon. As a general proposition, one would imagine that an elastic bandage or stocking would tend to prevent the development of a purpura.

Dr. HOWARD FOX agreed with Dr. MacKee that it would seem as if the support given to a varicose vein by such a bandage would rather prevent extravasation than cause it.

Dr. WHITEHOUSE reported on the case of *Larva migrans* presented at the last meeting. Dr. Heimann had made a careful study of the sections taken from a lesion from the back of the hand, and failed to find the larva; but the activity of the condition in that spot has been checked. He found evidences in the burrow of the progress of the parasite, but did not succeed in capturing the animal. The condition had been reduced now to only four active lesions—three on the back of the hand and one on the left upper arm. Its being in

the superficial layers of the skin probably accounted for the disappearance of the condition under treatment. The patient had 35 lesions at the start, and now had only four. An ointment of epicarin, 10 per cent., had been used, after vigorous daily scrubbing with soap and water.

DR. MACKEE said that he had studied some of the slides, and was surprised to find that the burrow was not only between the horny and granular layers, but that it extended into the rete for a considerable distance, almost to the basal layer in places. The speaker was under the impression that Knowles had found the burrow to be between the horny and granular layers. The fact that the organism could burrow deep into the epidermis might explain why mild local antiseptics were not particularly efficacious.

DR. HEIMANN said that Dr. MacKee had not seen all the sections. Although in some instances the burrow was deep, there were also lesions which may have been the beginning or ending of the burrow which were much more superficial, as Dr. Knowles described in his article. He thought it possible that at times the larva might be found in the more succulent cells of the rete. The rest of the sections showed all the inflammatory changes that Rille and Riecke had described. The entire picture, if one did not know that it was larva migrans, strongly suggested urticaria, which would account for the raised lesions, and would explain the oedema. The site of the lesion closely corresponded to that where acarus travelled in scabies, a condition easy to cure. Possibly the organism of larva migrans had a thick chitinous covering, however, which rendered it less amenable to medicament. Probably the correct treatment was along the lines Dr. Whitehouse had suggested—the removal of the epidermis and the application of mild antiseptics.

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## MANHATTAN DERMATOLOGICAL SOCIETY.

Regular Meeting, Oct. 13, 1916.

FRED WISE, M.D., *Chairman*.

UNILATERAL PIGMENTED NÆVUS. Presented by Drs. HOWARD FOX AND OCHS.

The patient, Mary M., was one year and seven months old. The eruption appeared when she was five months old and consisted of a group of dark brown macules on the right side of the nose, cheek and forehead. The lesions varied from a pin to a pea in size and were somewhat confluent on the nose. There had been no treatment.

CASE FOR DIAGNOSIS. Presented by DR. BECHET.

The patient was a baby, two months old. The mother stated that the eruption appeared on the face shortly after birth as small, reddish, pin head sized lesions, gradually fading off to white. When first seen the child's face was covered with a considerable number of whitish, raised, hard, non-inflammatory lesions of pin point to pin head size. They could easily be curetted off and seemed composed of a thick, hard sebaceous plug.



## DISCUSSION.

DR. ROSEN made the diagnosis of miliaria. This condition was quite common in infants and pediatricists saw them more frequently than dermatologists. They usually involuted spontaneously.

DRS. MACKEE and BECHET agreed with the diagnosis of miliaria.

## BAZIN'S DISEASE RESEMBLING SYPHILIS. Presented by DRS. MACKEE AND WISE.

The patient, E. N., was a female, 22 years of age, from Dr. Fordyce's clinic. The duration of the eruption was four months.

The patient came under observation two months ago, at which time there was a palm-sized, deeply infiltrated, dark red or brownish-red plaque on the external surface of the left leg, four inches below the knee joint. Four weeks later four dime-sized ulcers developed in the plaque, one in the center and the others at the margin. The ulcers were deep and were so arranged that they produced the scalloped outline so often seen in syphilis. The Wassermann reaction was negative on two occasions and the histopathology was that of Bazin's disease rather than that of syphilis. Under the microscope there was a deep infiltration consisting mostly of lymphocytes with a few plasma cells. This was most marked in the lower derma and subcutaneous tissue. The infiltration was divided into nodules in which were found giant cells and epithelioid cells. The vascular changes were not as marked as one would expect to see in syphilis nor was there the mantling of the vessels with plasma cells. The patient had been receiving mixed treatment but there had been no improvement.

## BLASTOMYCOSIS. Presented by DR. GILMOUR.

The patient was a male, 37 years of age, born in Russia. He slaughtered pigs and calves by occupation. The previous December he had bruised the under portion of the back of his left hand and directly thereafter a small wart-like swelling appeared, which gradually increased in size, especially during the past four months. The speaker said that the diagnosis of blastomycosis had been confirmed by microscope and that some of the gentlemen present had seen the case before.

## DISCUSSION.

DR. HOWARD FOX wished to remind the members of a case of epithelioma of the back of the hand which he had reported. The case had also been shown before the Society as one for diagnosis. At that time various diagnoses, including blastomycosis and tuberculosis, were made, no one even suggesting the possibility of epithelioma, a condition which was subsequently proven. The lesions closely resembled the one in Dr. Gilmour's patient.

DR. GILMOUR said that the case had been treated by one per cent. copper sulphate solution, applied by cataphoresis. He said the organism had been found in the discharge from the wound.

## PRURIGO FEROX. Presented by DR. GOTTHEIL.

The patient, a female, aged 15, had had an intractable itchy affection of the whole integument, practically since birth. The individual lesions began as small, colorless papules appearing anywhere, but most numerous and largest on the extensor surfaces of the limbs. Itching, however, was so universal and violent a symptom, that it was only occasionally and in isolated places, that

the original lesions could be seen. The entire integument was more or less covered with scratch marks, excoriations, blood crusts and stains from previous lesions and this multiform eruption was further obscured by accidental infections, peripilous pustules, furuncles, etc. The entire skin was more or less thickened and the superficial lymph nodes were everywhere swollen and palpable. The patient was subnormal mentally. She was also backward physically. There was very little mammary development, though she was big for her age and she had menstruated a few times, irregularly and sparsely only.

#### DISCUSSION.

DR. WISE said he thought that the presence of scars and little pits from pre-existing lesions, was one of the peculiar features of prurigo ferox and that the designation prurigo mitis was more applicable to this case, there being no evidences of permanent scarring.

DR. GOTTHEIL said this patient had been under more or less continuous treatment for three years. For two years she had to be kept out of school on account of the necessary bandaging of the entire body and the irresistible desire to scratch. Treatment had been of the most varied kinds, internal and external. There had been marked improvement up to a certain point, but latterly there had not been much change in her condition. Prurigo of this violent type, the true prurigo ferox, was rare, the speaker thought, in this country.

DR. MACKEE said that where the lesions were so large much time could be saved by ablation and the subsequent use of radium as a prophylactic. One or two radium treatments would suffice to prevent a relapse whereas from eight to twelve and even more applications would have to be made if the large lesions were not first removed surgically. Furthermore, so many treatments might permanently injure the skin by producing atrophy, telangiectasia and keratoses. From a cosmetic point of view, also, the combination treatment was preferable. Not only could telangiectasia and atrophy be avoided, but pigmentation in the white skin and depigmentation of the black skin would be obviated. Furthermore, although the lesions could be removed by radium without any of these sequelæ, the skin, after the involution of a keloid, never presented a good appearance. If surgical ablation were neatly done and a dainty, hardly perceptible linear scar obtained by means of the subcuticular stitch, the cosmetic result was as near perfect as it was possible to obtain.

KELOID. Presented by Drs. HOWARD FOX AND PISKO.

The patient, W. S., was a full blooded negress, 35 years of age, born in the United States. She presented keloids of varying size upon the face, neck, forearm and back. Two of those upon the left forearm had followed traumatism, in the form of scratches by a nail and a pair of scissors. The largest keloids were situated upon the left shoulder, forming two separate masses, the entire group measuring three by four and one-quarter inches. Some of them were elevated to a half inch above the surrounding surface. Most of the keloidal masses were sessile and some were partially pedunculated. The patient was under treatment by radium.

#### DISCUSSION.

DR. WALLHAUSER said in cases of keloid, with so much elevation, he would employ either excision or cauterization but would prefer the latter, using the galvano-cautery to destroy the projecting mass and following with solid carbon dioxide applications to the base.

DR. HOWARD FOX said he would like to ask Dr. MacKee whether he thought complete excision, followed by X-ray, would affect a cure of the tumor on the back of his patient.

Dr. MacKee said he thought if the entire back area received one or two treatments consisting of two units of a number nine or ten ray after excision, there would be no relapse.

**PSEUDO-HERMAPHRODITISM: GUMMATOUS ULCERATION OF THE GENITALS.** Presented by DR. GOTTHEIL.

The patient, a negress, aged fifteen years, was admitted to the Female Dermatological Ward of the City Hospital, for an extensive ulcerative affection of the genital and perianal region which was manifestly gummatous in character. Under the ordinary mixed treatment, salicylate of mercury injections and potassium iodide, it healed promptly, leaving extensive pink-white scars, contrasting with her black skin. The abnormality of the genital organs was of course noticed when she was first seen, but the ulcerations were so extensive and deep, and the parts so sensitive, that nothing like a complete examination could be made until she had been three weeks under treatment and the lesions were well progressed towards cure.

Description of the genital organs: In the median line, overhanging, still swollen and hard folds that looked more like a cleft scrotum than labia majora, was a penis-like organ much larger than the average male member. This was composed almost entirely of a very large glans, of the usual male shape and with a well marked sulcus; it was erectile tissue and, she said, got large under sexual excitement. A distinct meatus was present but its lower margin was deeply cleft and a deep sulcus ran down from it to the vestibule, where the meatus urinarius was situated. The two lateral masses above mentioned were not the two halves of a cleft scrotum. No testicular or epididymoidal tissue could be felt, nor did quite severe pressure elicit any of the characteristic feeling. Below the vestibule was a narrow and sclerosed introitus vaginæ; it just admitted the index finger and was about two and one-half inches long. A small, but perfectly distinct cervix uteri could be felt and on conjoined rectal and vaginal manipulation a small uterus could be made out. Ovaries were not appreciable.

The patient was a negress of low type, with recedent forehead, almost no mental protuberance and very thick lips. Habitus tended distinctly to the masculine type, hips very small, shoulders broader, mammae masculine and the hair line on the abdomen male in type. There was an enormously deep and very narrow hard palate and all the teeth were compressed and set in a double row. She claimed to have normal sexual feelings, but the nurse in the ward informed the speaker that she constantly attempted to caress and fondle the other female patients.

He regarded the case, so far as physical signs were concerned, as predominantly female, with psychic hetero-sexual or rather bi-sexual tendencies. She claimed to have been raped in April of this year and then infected. Private examination, however, elicited the confession that she had had intercourse before. The speaker was unable at present to decide whether her gummatous syphilis was a late hereditary affection; her physical malformations would seem to point in that direction. It might well be an acquired syphilis, however. Her mentality was decidedly subnormal and sexual life began at a very early age in an individual of this type.

**LEPRA TUBEROSA ET MUTILANS.** Presented by DR. GOTTHEIL.

The patient was a female, aged 54 years, Russian. She had had the affection for fifteen years, having been practically blind for ten years. She came

to this country eight years ago, passing the immigration office inspection without trouble. She was blind and had the lesions on her face at the time. The case was of the ordinary type, nodular lesions studding the face, arms, legs, etc. Both irides were infiltrated and the corneas quite opaque. There were ulcerations of the joints of the fingers, clawing of the hands and feet, etc. The case should be recognizable as far as it could be seen.

#### DISCUSSION.

DR. HOWARD FOX urged the trial of chaulmoogra oil by subcutaneous injections according to the method of Heiser. He felt convinced that chaulmoogra oil had a specific action in leprosy but that failure to obtain results was often due to inability to take large doses by mouth. The result obtained by Heiser in the Philippines as shown by photographs were strikingly good. The speaker was treating a patient by this method with encouraging results.

DR. GOTTHEIL said that Dr. Fox's suggestion was valuable, as any suggestion in this entirely intractable disease was. But all measures, from chaulmoogra oil to antileprosin, had been absolute failures in his hands. There were always one or more lepers in his skin service at the City Hospital and occasionally there was an intelligent one, who read all the literature of the disease. Any suggestion that he made as to new drugs or new methods of treatment was always accepted, but the results were always the same.

#### DERMATITIS EXFOLIATIVA FOLLOWING PSORIASIS. Presented by Drs. MACKEE AND WISE.

The patient, W. B., 53 years of age, male, had come from Dr. Fordyce's clinic. His skin trouble had started eighteen months previously as psoriasis and finally became universal. He was presented as a case of dermatitis exfoliativa following psoriasis. The exfoliation was not marked when he was shown because he had been treated with various ointments. There was a universal erythroderma and the skin was thicker than normal.

#### DISCUSSION.

DR. GOTTHEIL recalled two cases at least, both old and inveterate psoriatics, in whom attacks of psoriasis alternated with typical outbreaks of dermatitis exfoliativa. He had photographs of these cases in their different attacks and he could vouch for the fact that these general erythrodermas were not chrysarobin dermatitides occurring during psoriasis treatment. In one case especially, the attacks alternated irregularly. The patient would have one or two ordinary psoriasis outbreaks a year and then, without any precedent eruption or treatment, appear with a florid exfoliative dermatitis involving every inch of his skin surface. Some relationship there undoubtedly was between the two types of eruption.

DR. SATENSTEIN said he thought there ought to be a distinction made between dermatitis exfoliativa that goes with psoriasis and alternates, and dermatitis exfoliativa that follows after chrysarobin treatment, because one was a true dermatitis venenata and of an entirely different nature from the true dermatitis exfoliativa.

DR. MACKEE said that psoriasis and eczema often preceded an exfoliating dermatitis whether or not stimulating applications were made. Undoubtedly a strong chrysarobin ointment, particularly in a susceptible individual, might enhance and even cause this metamorphosis. He would not employ the term dermatitis venenata in such cases because exfoliating dermatitis was a clinical entity no matter what its aetiology or manner of development. Nevertheless



Dr. Satenstein's point was well taken, for a dermatitis venenata complicating a psoriasis might resemble dermatitis exfoliativa. The dermatitis venenata, however, would probably subside quickly under treatment.

LUPUS ERYTHEMATOSUS OF THE DORSUM OF THE HANDS. Presented by Dr. WEISS.

The patient was a female adult. The eruption began with pin-sized, hyperæmic lesions, gradually increasing and showing considerable scaliness around the edges. There was some infiltration in the centre, which also showed slight depression. The dorsum of the hands only were affected, coming and going for the past seven years. The condition showed an eczematous aspect and also bore some resemblance to erythema multiforme lesions. They came on with general malaise. The speaker diagnosed the case as lupus erythematosus of the dorsum of both hands.

DISCUSSION.

DRS. WISE AND ROSEN thought the case was one of squamous eczema. The depressions that gave one the impression of atrophy were probably caused by the local applications employed.

Dr. BECHET agreed with Dr. Rosen. He did not think the changes in the hands were sufficiently suggestive of lupus erythematosus. He thought it an eczema.

Dr. MACKEE said that judging from what he could see of the condition at night, he would call it squamous eczema. The patches were not well outlined, the border was not sharp and many of them faded gradually into the normal skin. There was no telangiectasia present, no folliculitis and no atrophy; nothing on which to make a diagnosis of lupus erythematosus.

Dr. HOWARD FOX thought the history and appearance of lesions favored eczema. He did not recall ever having seen a case of lupus erythematosus limited to the hands for so many years. He suggested X-ray as a therapeutic test, as the use of this agent in squamous eczema was generally followed by a rapid cure while in lupus erythematosus the results of treatment were very unfavorable.

Dr. REMER said he would like to emphasize what Dr. Fox had stated, that one or two mild treatments with the X-ray might clear up this condition if it were eczema.

Dr. WEISS said he thought of the diagnosis of lupus erythematosus because of the fact that the lesions had been standing since seven years, slowly enlarging and some new ones coming. As there was no oozing, itching and no crusting, he tried to avoid a diagnosis of chronic eczema or squamous eczema, which was a usual refuge. The fact that she had no other eczematous lesions spoke against eczema, while the fact that other places of predilection were not affected would not vitiate against the diagnosis of lupus erythematosus. Hallopeau and Klotz had described such cases. Klotz, in an admission thesis to the New York Dermatological Society, in the *Journal of Cutaneous Diseases*, January and February, 1888, described such cases, occurring on the backs of the hands without any concomitant symptoms on the head or face. However, the speaker said he would make use of Dr. Fox's test and report the case again at another meeting.

RHINOSCLEROMA. Presented by Dr. GOTTHEIL.

This case, a male, aged 22 years, Austrian by birth, first noticed the enlargement of his nose two years ago. It had been increasing steadily since

then. Though essentially typical, it presented some unusual features. The skin of the nose itself was not affected at all, it was thin and supple. Underneath it, the nasal bones could be felt as distinctly as in the normal subject, more distinctly in fact, since they were greatly displaced, being thrown upwards and outwards. Their inner margins, instead of being in apposition, were separated by a tumor over one inch wide and their outline could be seen as well as felt. The alæ and tip of the nose, on the other hand, were distinctly rhinoscleromatous and so also were the soft palate and fauces. The upper lip was moderately affected, and there a biopsy had been made and the characteristic bacillus found. The nostrils were entirely occluded. The tumor undoubtedly originated in the floor of the nose and in the palate and it had in its growth displaced and separated the nasal bones. The suggestion made by the rhinologist of the City Hospital, who examined the case, that the intranasal tumor was sarcomatous, could not be accepted in view of the characteristic macroscopic and microscopic findings, the history, etc.

#### DISCUSSION.

DR. KINGSBURY said he felt very much as did the rhinologist. In his opinion the patient presented a slow growing malignant intranasal tumor, undoubtedly a sarcoma.

DR. MACKEE said that he had had the patient under observation for a few weeks but had been unable to make a diagnosis. A biopsy had been made at Dr. Fordyce's clinic but a poor location had been selected. The microscopical appearance was certainly not that of sarcoma, nor did it resemble rhinoscleroma excepting, perhaps, in the earliest stages of this disease. Dr. Trimble made a biopsy a year or two ago and a general pathologist considered the tissue to represent a sarcoma. Oulmann, also, had obtained some tissue at another time, but he had been unable to arrive at any conclusion. Dr. Remer had given one cross-fire, filtered X-ray treatment and it was thought that the condition had improved a little. This, however, did not prove the diagnosis of rhinoscleroma, because sarcoma, also, might respond to an equal degree. The speaker, while not willing to make a positive diagnosis, was in favor of rhinoscleroma.

DR. SATENSTEIN said he would like to remind the gentlemen that rhinoscleroma was a tumor formation.

#### PEMPHIGUS VULGARIS. Presented by DR. GOTTHEIL.

The patient, Joseph L., aged 40 years, German, was admitted on October 3rd. About September 23rd, "sores" appeared on his lips and a few days later on his arms and legs. They began as small vesicles, but soon became larger, broke and became sores. The health previously had been entirely good. He presented a typical picture of pemphigus of the mucosæ and skin in its earlier stages. On his back some of the older and larger excoriated areas showed tendencies to proliferative growth, of the type of the so-called pemphigus vegetans, but they had learned that vegetative overgrowth occurred in many dermatoses, as in epithelioma and chronic ulcerative dermatitis. Dr. Fordyce and the speaker reported such a vegetative dermatitis, following Duhring's disease and he did not, therefore, regard this as marking a different form of the disease. Some of the bullæ also were flat and covered with a wrinkled epidermis, approximating the foliaceous type. This also he regarded as accidental and unimportant. The prognosis, of course, was entirely bad. He had occasion to see a comparatively large number of these cases, perhaps four or five a year on an average and had never known a single one of them to recover. In fact he would go so far as to say that when an apparent case

did recover, it was not a true septic pemphigus, but was one of those extensive bullous erythemas which they all occasionally encountered. The fact that the mucosæ were first and extensively affected marked the case as one of probably rapidly fatal course.

## DISCUSSION.

DR. WEISS said he agreed with the diagnosis and would only add that the case was one of the foliaceous type of pemphigus. A case of pemphigus of the genitals, in a female, which he presented before the Society two years previously, got better under application of weak solutions of permanganate of potash, arsenic injections and such mild or slightly stimulating salves as the stages of the disease warranted.

DR. MACKEE said that bearing on the ætiology, he had two cases of acute septic pemphigus ending in death, where the focus of the infection was discoverable. He had one case of pemphigus of the more chronic type, where there was time to do something and found that when the two abscessed teeth were removed the patient got well.

DR. WISE said that pemphigus foliaceous usually exhibited lesions which justified that name, in that the scales were profuse and leaf-like in appearance. In this case there was not the slightest suggestion of scaling in any of the lesions, precluding the use of the word foliaceous.

DR. GORTHEIL said he had tried treatment of all kinds on these cases, from the permanent bath to Coly's toxines and auto-serum, without result. The suggestion to search for a local focus of infection in the teeth was a good one. Unfortunately, like most of their older City Hospital cases, all this patient's teeth were in bad shape and no dentist could or would attempt to do much for him with his mouth in the condition that it was in. And there were other foci that might be thought of, if anything was to be done in this direction. He probably had a chronic gonococcal urethral infection,—most of these patients had. The intestinal tract and the appendix, the nasal mucosæ and many other places might be suspected. It seemed hardly possible under the conditions to follow the suggestion.

## CASE FOR DIAGNOSIS. Presented by DR. BECHET.

The patient was a female adult. Her eruption began on the back about one week previously and within a few days spread to the abdomen, beneath the breasts and on the upper thighs. The lesions were of a vivid red color and consisted of scaling patches, some of which had a moist, exuding surface, somewhat resembling the surface of a bulla after the superficial epidermis had been rubbed off. Other lesions were decidedly vesicular, topping a wide-spreading, acutely red base. They were particularly noticeable on the back, still others were dry and scaly. The disease first thought of was pityriasis rosea and that diagnosis was tentatively made, despite the fact of vesicle formation.

## DISCUSSION.

DR. MACKEE said he thought the case might be one of pityriasis rosea with clinical evidences of what was so often seen under the microscope. He often wondered why the disease did not more frequently form exudative lesions because vesiculation and œdema was so often seen under the microscope. The speaker thought within another week it might look a good deal more like pityriasis rosea than it did when shown. The speaker called attention to Wile's case of vesicular pityriasis rosea and that he had observed a hæmorrhagic type of the disease.

DR. ROSEN thought the case was a bullous impetigo or impetiginous eczema. Here and there one could distinguish a dried up, vesico-bulla, covered with a thin crust. The lesions were too localized for an erythema multiforme.

DR. WISE said he believed the case to be pityriasis rosea, but thought that Dr. Bechet was justified in showing it for diagnosis, as it was by no means a typical one. Many of these lesions were distinct vesicles and although some vesicles appeared in pityriasis rosea at times they usually were not so large as the ones seen in this patient.

DR. BECHET said he presented the case to bring out the facts mentioned by Dr. MacKee. His first impression was that the case was one of pityriasis rosea, yet the presence of vesicles was puzzling as he had never seen vesiculation in pityriasis rosea, yet such cases had been reported in the literature. This case gradually developed into a typical pityriasis rosea, the vesicles slowly disappearing, giving way to the scaly patches. It seemed undoubtedly to have been a case of pityriasis rosea with macroscopic vesicle formation.

#### CHRONIC ECZEMA ERYTHEMATOSUM OF THE CHIN AND THROAT. Presented by DR. WEISS.

The patient was a female adult. Her hyperæmia of the chin, oval part of the cheek and the throat began with a hyperæmic macule, two years previously, which gradually extended into an area of hyperæmia, conveying a sense of burning and itching. The affected skin was somewhat infiltrated, with slight, bran-like scaling. She was presented as a localized case of chronic eczema erythematosum. There were no scratch marks, no crusts, vesicles or bullæ. The margins of the lesions were sharply defined.

#### DISCUSSION.

DR. SATENSTEIN said there were two other possibilities to be considered in this case, one, early mycosis-fungoides and the other the inflammatory stage of scleroderma.

DR. WEISS said the lateral lobes of the thyroid being enlarged and palpable, there possibly might be some mechanical pressure exerted on the circulation. There was accelerated heart action, sweating of the hands and some other endocrine disturbances present. The speaker was not prepared to say how, but thought these observations might be helpful to explain the ætiological factors of the dermatosis.

#### TRICHOPHYTOSIS BARBÆ PROFUNDA: RESULTS OF TEN DAYS' ORDINARY TREATMENT. Presented by DR. GOTTHEIL.

The patient entered the City Hospital on September 23rd and was first seen by the speaker a week later. The case was a moderately extensive one of deep ringworm, with much swelling and infiltration. It had been present several weeks. The treatment was shaving of the sound, bearded skin, persistent epilation and a bichloride wet dressing, together with free opening of the abscesses. The patient was almost well and the speaker expected to discharge him in a week or two. The case was shown to demonstrate what could be effected by the older and simpler methods of treatment, without the X-ray or the other newer means.

#### DISCUSSION.

DR. MACKEE said it was pretty well known that all pustular types of ringworm usually cleared up spontaneously and that if left alone long enough, they would cure themselves.



## KAPOSI'S SARCOMA. Presented by DR. WEISS.

The patient, a male adult, had been under treatment elsewhere, where he had received arsenic injections for his condition. The skin of both legs and feet were occupied by the characteristic diffused, dark blue, sessile tumors and since a few weeks he had had lesions on the upper extremities, and on the hands and right foot, also. The lesions on the foot and instep were beginning to fungate, while others underwent spontaneous involution. Both legs showed some elephantiasis-like thickening. The malady had lasted since four years.

## DISCUSSION.

DR. REMER thought the fungating lesion would clear up under massive doses of the X-ray. It was wonderful how some of these cases had responded, but they often required a number of treatments.

DR. WISE said he reported a case of Kaposi's sarcoma about a year ago, in which he gave massive doses of X-rays, resulting in a clinical cure. He saw the patient a short time ago and there were no new lesions, but the case had been much milder than the one shown, hence more amenable to X-ray therapy.

DR. HOWARD FOX said he had seen a favorable result in a case treated by Dr. Remer with the X-ray.

DR. GOTTHEIL said some of the lesions were becoming fungous already. The Kaposi sarcoma was turning into the ordinary and more malignant sarcoma, as occasionally occurred. Would the X-ray still be advised in the treatment of the case?

DR. WEISS said that in these cases of fungating sarcoma metastases might occur through the application of the X-ray. He asked opinions on this and about injections of arsenate of soda in these cases.

LICHEN PLANUS HYPERTROPHICUS. (Showing Result of Treatment.)  
Presented by DR. HOWARD FOX.

The patient, Isaac L., had been previously presented before the Society as a classical case of lichen planus hypertrophicus, chiefly affecting the forearms. The disease had existed four years. Considerable improvement had resulted by applications of pure caroblic acid, previously made by Dr. Pisko. These applications, however, had not entirely flattened the lesions and had caused considerable depigmentation. The speaker had made a thorough trial of the galvano-cautery and the high frequency cauterization (using a fine metal electrode) in the case of the lesions on the arm. The patient found the sparks less painful than the galvano-cautery and less disagreeable. There was also no doubt that the best result had been obtained by the high frequency cauterization, the lesions having been entirely cleared up with good cosmetic result. The two large, elevated lesions on the abdomen and leg had been treated with massive doses of X-ray, varying from one to two Holzkecht units. They had nearly disappeared at the time of presentation.

## PREMYCOSIS FUNGOIDES (?). Presented by DRs. MACKEE AND WISE.

The patient, Mrs. L. W., 57 years of age, from Dr. Fordyce's clinic, presented an eruption of several years' duration. There was a generalized distribution of slightly scaly, erythematous, non-infiltrated, slightly pruritic macules and patches, which ranged in size from a silver dollar to lesions the size of the adult hand. The color was a light red. The margins were well defined. The Wassermann reaction was negative. The patient had received

a few X-ray treatments without much relief. Under the microscope the tissue presented a practically negative derma with slight acanthosis and parakeratosis of the epidermis. The epidermis was rich in mitotic figures and in a few places there were small areas of degenerated rete cells. The diagnosis seemed to rest between an early stage of mycosis fungoides and parapsoriasis.

#### DISCUSSION.

DR. WALLHAUSER thought parakeratosis should be considered as a possible diagnosis in this case, on account of the absence of infiltration and pruritus.

DR. SATENSTEIN said that the sections suggested pityriasis rubra (Hebra type) and that there was nothing in favor of mycosis.

DR. BECHET said that he had had the case under observation for three or four months in Dr. Kingsbury's service at the Skin and Cancer Hospital. There were at the time several markedly infiltrated patches on the arms which were strongly suggestive of mycosis fungoides. There was also an excessive pruritus. He concurred in the diagnosis of the exhibitors.

DR. SATENSTEIN said they had three cases of the early stage of mycosis fungoides, the erythematous stage, at the Vanderbilt Clinic, during the past year and a half. Examination of the tissue showed typical mycosis fungoides. The case presented was the first one which had not shown any characteristic microscopical features which would assist them in making a diagnosis.

#### CHICAGO DERMATOLOGICAL SOCIETY.

Regular Meeting, October 17th, 1916.

UDO J. WILE, M.D., *Chairman.*

ACTINOMYCOSIS. Presented by DR. ZEISLER.

This patient was a young lady twenty-six years old. The trouble began about two months ago, on the left side of her face, as several deep-seated abscesses. She had been under treatment for about a month on account of numerous deep-seated infiltrated nodules and abscesses on the chin and cheeks, and under treatment with X-rays and antiseptics she became worse for a time. The tonsils were cryptic and full of pus and had been removed. In spite of this, the infection had spread. The pus under the microscope showed branching filaments with bulbous ends which looked like actinomycetes. The patient had been given potassium iodide internally and tincture of iodine externally, and since then had improved. Anaerobic cultures so far had been negative. The eruption consisted of sluggish, purplish-red nodules and abscesses, the pus from which contained yellow granules.

#### DISCUSSION.

DR. FOERSTER said he had two patients under his care which were duplicates of Dr. Zeisler's case, but both had more extensive eruptions, involving the forehead, cheeks and neck, and running up into the mastoid region.

Early this year he had a third case in which the eruption had been limited to the forehead. They were all characterized by very rapidly developing, sinus-like abscesses in the skin. In one of the cases, pressure on the cheek would cause pus to run out of the chin. He had read of a similar case in which the doctor had injected iodine with a hypodermic syringe into the sinuses and the case had cleared up very quickly. He had thought it might be due to some form of ringworm, but no proof of this was found. The pus was at times bright yellow, sometimes very thin, and finally the channels filled with a firm, gelatinous substance. He had regarded these cases as a peculiar type of acne. They had all occurred in young women who had had pustular acne previous to the appearance of this infection.

DR. PARDEE had had just one case which was quite similar, with the same extensive sinus running from the cheek to the chin, and which he had considered a case of acne. He had made no microscopic examination but the case got well very rapidly.

DR. HEIDINGSFELD thought that it was a case of acne indurata of the type in which the deep-seated pustules were often caused by personal manipulation. In his opinion microscopic examination of itself did not warrant the diagnosis of actinomycosis. Clinical evidence should take precedence over microscopic findings. The case reminded him of a case of abscess of the brain recently reported at the Cincinnati General Hospital. The ray fungus was found in the abscess of the brain. The case otherwise gave no evidence of actinomycosis from a clinical standpoint.

DR. McEWEN did not consider it actinomycosis. He had seen a number of cases similar in clinical appearance to this patient and had considered them examples of a deeply seated and severe type of acne.

DR. LIEBERTHAL had seen cases of this type. In one, a boy driver, he had found mycelium in the pus, but he could not classify it. It was not the ray fungus, however. In his opinion the case was one of acne complicated by a fungus affection.

DR. HARRIS had recently had a case similar to this and in it he had found a staphylococcus. That case got well very rapidly under surgical treatment—opening the abscesses and applying hot, wet dressings.

DR. ORMSBY did not like to say that the lesion was not produced by the ray fungus, but they had all seen such cases and treated them as acne and the cultures had developed nothing but staphylococcus. It might be that this was a new type and he thought it should be traced further.

DR. WILE thought it not unlikely that a successful growth would occur under aerobic conditions at room temperature.

DR. ZEISLER thought it was not a cast of acne. We knew that acne was a long, chronic process which did not start suddenly in a twenty-six-year-old person. He had known the patient for many years and she had been under his care six years ago for an ordinary acne which had cleared up. Four or five weeks ago she had come back with the deep-seated lesions on the chin which looked like a staphylococcus infection. Unfortunately, when the tonsils were removed the work was not thoroughly done; part of the tonsils remained, so that a further source of infection was present. He had opened the abscesses and treated them just as well as he knew how to treat abscesses of the skin. The process had become worse every day, and his son had suggested the possibility of actinomycosis. About ten years ago he had had a similar case under his care in which the pus was examined very carefully and repeatedly and at one time they had found under the microscope what looked like a ray fungus. He could not explain why the cultures had been negative, but thought there might be difficulties in cultivation. The case clinically resembled so distinctly the other case of actinomycosis that he had every reason to think it was similar to that. The definite improvement under

iodide of potassium and iodine locally also seemed to him to favor the diagnosis of actinomycosis.

#### CASE FOR DIAGNOSIS. Presented by DR. PARDEE.

The patient, a woman, forty-five years of age, in good general health and with no previous history, personal or otherwise, which seemed to have any bearing upon the condition, had been under observation for three weeks, and was the third case showing practically identical lesions with exactly the same distribution, which it had been his privilege to present before the Society.

In all cases the eruption appeared slowly upon the cheeks, chin and the forehead, between the eyebrows, accompanied by slight subjective symptoms of heat and burning. Itching has been absent except on rare occasions, but there had been frequent flushing of the entire face, disproportionate to ordinary exertion or emotion and with no apparent connection with the usual causes of this symptom.

The lesions consisted of very slightly elevated papulo-vesicles, perceptible to the touch but not indurated. In color they were of a light pink to red, which, on examination through the diascopé faded, leaving a distinct yellowish tint which remained in spite of pressure and suggested, although not closely, the "apply jelly nodules" of tuberculosis of the skin. These papulo-vesicles were confluent upon the cheeks and chin, but isolated lesions appeared at the edges of the patches and were present upon the forehead and beneath the skin. In size they varied from a pin-point to a pin-head, and upon opening discharged a tiny drop of perfectly clear fluid. There was no scalding or crusting of any kind, nor was there any sign of pustulation. The condition had been practically stationary since two weeks after its onset, three months before, and had had no treatment.

#### DISCUSSION.

DR. HEIDINGSFELD thought it was an artificial dermatitis, and the special interest lay in the fact that under the diascopé the color did not wholly disappear as it usually did in such cases.

DR. LIEBERTHAL said his impression was that it was a case of dermatitis from internal cause.

DR. HARRIS thought the case was a form of tuberculide. It was similar to cases he had seen described as *acne telangiectodes* of Kaposi.

DR. ORMSBY thought the disease was not a tuberculide. Those cases ran a different course and it was a very characteristic thing for that disorder to produce scars. He was not prepared to say that it did not belong to the tuberculides, but if so, it was different from anything he had ever seen. He thought it was a papular seborrhœic dermatitis.

DR. FOERSTER thought it was a tuberculide. He said Dr. Pardee had shown a case last year which had cleared up very quickly, and he had shown a case two years ago which took longer to clear up, but in that case the lesions were darker and more sharply outlined, leaving faint scars. Just where the case belonged he did not know. It reminded him of cases described by Engmann ten years ago, as *seborrhœa rubra*.

DR. ZEISLER had seen the case before, through the kindness of Dr. Pardee, and believed it similar to the cases he had shown before. To his mind an inflammatory condition was not likely, because it was stationary. It may have been some chronic process affecting the glandular structures of the face. He thought it was nearer what might be called a syringo-adenoma of the skin.

DR. PARDEE said this was the fourth case he had had the opportunity of seeing and was the third case he had under his own care. He could not



agree that it was a tuberculide, but it unquestionably was a chronic affair, and he believed it was connected either with the sweat glands or the sebaceous glands. The yellow condition seen with the diascopes was the same that could be seen with any ordinary dermatitis, but it showed that it was chronic and deep-seated. These cases all cleared up under the X-ray, but the improvement was slow. He could not see anything about it which resembled any tuberculide which he had ever seen. He believed it a clinical entity and some chronic glandular affair.

DR. ORMSBY thought it would be an excellent opportunity to take out a small lesion from the neck and settle the diagnosis in that way.

#### LUPUS ERYTHEMATOSUS. Presented by DR. McEWEN.

The patient was a woman, aged forty-one years, living with her third husband. She was born in Belgium, of Flemish stock, and had been in the United States twenty-four years. She had two children living and well, but had had three miscarriages, two induced, one from "grip." The patient was one of five children, all living and well.

Seventeen years ago she spent three months at the County Hospital. She had a rash like "little pinheads," which developed into "sores like chicken-pox," accompanied by sore throat and severe headache, at night, for weeks. She also had generalized rheumatic pains. After leaving the County Hospital she was treated at Rush Dispensary. She took pills intermittently for three years.

In the summer of 1914 she had a lesion, which was thought to have been an insect bite, on the right arm. This, together with several others which appeared, lasted for several months. In August of the same year severe itching occurred, followed shortly after by a bright red eruption back of ears, over the nose, cheeks, and on a V-shaped, exposed area of the chest. With the onset of cold weather in October all the lesions practically disappeared. In April, 1915, they recurred in all the areas previously affected, but did not heal in the autumn, as before. In February, 1916, the patient was given intensive mercury and iodide medication by mouth. Salivation resulted. There was no effect on the lesions, except to produce thick crusts, which had persisted to time of presentation.

The Wassermann reaction was triple plus.

At the time of presentation the nose was completely covered by a heaped-up, dirty yellow crust. There were dime-sized, scaling, superficial papules on the cheeks. Back of the right ear there was a superficial area, 3 cm. in diameter, bright red, slightly scaling, with complete loss of hair. No apple-jelly nodules were present.

#### DISCUSSION.

DR. SHAFFNER considered the case a lupus erythematosus and thought there was not much atrophy.

DR. PARDEE said it was the second or third case of lupus erythematosus which had been shown, which differed from the ordinary. He called attention to the greater inflammation of the lesions when they occurred on a syphilitic basis in contrast to those in non-syphilitic patients.

DR. LIEBERTHAL asked if the patient had had intensive specific treatment. Without such he would not exclude the diagnosis of syphilis.

DR. ORMSBY said that the lesions had been present for six months and she had been under quite intensive treatment.

DR. MITCHELL said the patient was sure she had improved since the treatment had been stopped.

COCOGENIC SYCOSIS TREATED WITH THE QUARTZ LAMP. Presented by DR. SENEAR.

The patient had been seen for the first time about two weeks previously, and at that time he had a sycosis which was rather extensive, and showed a large number of follicular pustules. The duration of the condition was a year and a half. He had not had very intelligent treatment, having used various salves without improvement. He had been given one treatment with the quartz lamp, and two days after was given wet dressings of aluminum acetate, 1 to 16 dilution. After two days the pustules had completely disappeared. The wet dressings had been used several days longer and had then been replaced by borol, but about three days later the condition had recurred, and was nearly as extensive as when first seen, the cheeks being studded again with follicular pustules. They had given him another exposure of the same strength two days before presentation, and again the wet dressings were applied, with the same prompt clearing up of the pustules. The speaker thought the result was disappointing in that it was not more permanent, but believed the progress had been much more rapid than it probably would have been under any other method of treatment.

DISCUSSION.

DR ZEISLER thought the X-ray treatment better than the quartz lamp because it produced more lasting effects than had been demonstrated in this case.

DR. ORMSBY had been using the quartz lamp in cases of *nævi*, but it had been disappointing. He considered it of value in the treatment of lupus erythematosus.

TOXIC ERUPTION. Presented by DR. SENEAR.

This case had been under treatment for some time. The speaker had seen him at the West Side Free Dispensary with a large gumma on the leg. He had used mercurial rubs and potassium iodide for many weeks without improvement, so he had been given an injection of salicylate of mercury, one grain. In two days he had returned with a typical exudative erythema on the arms; and in three days more the eruption had become generalized. He had searched for something besides the medication which might have caused it, but nothing was found, except constipation of long standing. In the literature he had found a case presented by Gottheil of New York, before the Manhattan Society, which was almost like this one. In Gottheil's case the eruption consisted of small papules of the type seen in exudative erythema, which had appeared the day following the injection of the salicylate. The eruption had cleared up, but following a second injection it had reappeared in a milder form. After the third injection a very extensive outbreak occurred. Later an eczematous eruption had appeared and spread until the whole body was covered. When the mercury was discontinued the process cleared up entirely. In the case exhibited, the eruption was at first entirely made up of the smaller lesions, but when he had seen the patient one week after the appearance of the eruption, there were present large erythematous patches over the arms and backs of the thighs. There were many of these patches, resulting from confluence of smaller lesions. The patient had a pronounced *œdema* of the forearms and right leg. After the eruption had been present three days, there developed an *œdema* of the arms which had disappeared speedily, but later he had a marked *œdema* of the leg. He had not had an opportunity of testing out the mercury as to its possible bearing on the eruption. The eruption had cleared up in some places; the body was much less affected

than it had been three days previously, but the arms were extensively involved. The extensor parts of the elbows had been the site of an extensive eczematous eruption, but that had cleared up considerably.

#### DISCUSSION.

DR. HARRIS said the case reminded him of several cases he had seen which looked like seborrhœic dermatitis and pityriasis rosea; several of them had developed furuncles and at least two had had abscesses in the axilla. They had been administering sulphur and ichthyol and the lesions had cleared up very rapidly. The association of the eruption on the trunk, similar to pityriasis rosea, combined with an eczema-like eruption on the extremities, he considered very peculiar.

DR. McEWEN thought there must be some connection between the eruption and the use of the salicylate of mercury. Whether it was entirely due to the mercury or not, he could not tell. It was possible the salicylate may have been impure. He thought the case looked clinically like a dermatitis seborrhœica, and that the œdema of the leg might be secondary to the scratching.

DR. STILLIANS said that the large macules with scaliness beginning in the centre reminded him very strongly of the series of cases he had seen at Cook County Hospital. Some of these cases had developed a severe dermatitis of arms. They had had no medication previous to the eruption. On the other hand, the cases of mercurial dermatitis that he had seen had not shown large macules.

DR. WAUGH had seen some similar cases in which small papular lesions predominated, but did not remember seeing any macular types.

DR. SHAFFNER had seen this type of eruption in other cases and considered it a toxic dermatitis, not necessarily due to mercury and probably not.

DR. ZEISLER thought it difficult to believe that the salicylate of mercury could produce such an eruption. He had given thousands of such injections but had never seen such an eruption. The impression he got was that of a toxic dermatitis that came from some drug and the suggestion that possibly the salicylate of mercury was not entirely pure, he considered a happy one. The eruption might have been due to some impurity of the drug.

DR. ORMSBY thought that Dr. Zeisler's statement might be answered by stating that thousands of people were rubbed with mercurial ointment without developing any trouble, but every once in a while a patient developed dermatitis and died from it. He considered it possible that the eruption might be produced by the mercury itself.

DR. SENEAR said that at the time of the presentation the appearance was distinctly different, but when he first saw the patient the eruption was confined to the forearms and was very typical of a toxic eruption. He felt that the lesions over the popliteal spaces were very much in accord with that diagnosis. The eruption on the body was different and should be examined much more closely. It would be interesting to see if further injections of mercury might produce the same developments which took place in Dr. Gottheil's case. It was only after the third injection that this case took on the typical appearance of an eczematous eruption. It might have been that the salicylate was impure, for the injections had been given at the dispensary and possibly the preparation was not kept as carefully as in private practice, but a great many cases had been injected with the same preparation and no similar eruptions had appeared. Dr. Gottheil's case had presented an albuminuria, but in this case no albuminuria was present, the specific gravity was

1020, and there was only a very slight indicanuria, not enough to suggest any intestinal fermentation or trouble in the gastrointestinal tract, which could account for the eruption.

LICHEN PLANUS. Presented by DR. HARRIS.

The patient was a young man who had a lesion on the penis which had been present for two years, and had, while under treatment, developed a lesion in the mouth.

#### DISCUSSION.

DR. ZEISLER considered it a case of lichen circinatus.

DR. McEWEN said the patient had presented exactly the same lesion on the penis when he saw him, about eighteen months ago; at that time he had lesions in the mouth which were not so marked as the present case.

DR. HARRIS said that the patient had had the lesion on the penis for two years, but that when he first saw him he had no other sign of the disease. He had developed the lesion in the mouth since that time.

NÆVUS ANÆMICUS. Presented by DR. HARRIS.

Dr. Harris said this case was similar to one he had shown before the Society last January, but he wished to demonstrate a new method of bringing out the condition which had not been previously described.

The patient was a young man, with an irregular, palm-sized, pale area on the right side of the small of the back. This was made much more vivid by rubbing the skin of the whole area with ice. The nævus became a distinct ivory color.

#### DISCUSSION.

DR. ZEISLER congratulated Dr. Harris on the demonstration of a new method of bringing out these indistinct lesions.

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### MINNESOTA DERMATOLOGICAL SOCIETY.

Regular Meeting, Dec. 12, 1916.

S. E. SWETZER, M.D., *President*.

GUMMA OF THE SCALP. Presented by DR. ARMSTRONG.

The patient, a male, aged 35 years, occupation, stableman, while cauterizing a sore on a horse, in February, 1916, had struck his head against the horse's teeth. A small tumor or swelling formed at this point, about two inches above the occipital protuberance. This swelling was opened and discharged pus, healing in about ten days. In September, 1916, following a second trauma, an ulcer occurred at the same site. The ulcer was of the size and shape of two overlapping five-cent pieces. It had smooth, regular, thin edges with pus pockets in its base. The lesion did not appear clinically like syphilis, and



epithelioma and fungus infection, as coccidioidal granuloma, were considered. Biopsy showed granulation tissue. The Wassermann reaction was four plus.

**LUPUS ERYTHEMATOSUS PRESENTING UNUSUAL FEATURES.** Presented by DR. ARMSTRONG.

The lupus erythematosus lesions on the face of this patient, a woman of 30 years, were typical. On the right arm, near the shoulder, she presented a large, palm size lesion with a broken down centre, that appeared more like a lupus vulgaris. The lesions on the face had been treated energetically, but the lesion on the arm had been treated only with protective dressings.

DISCUSSION.

DR. FOSTER mentioned the change that occurred in some patients, from lupus erythematosus to lupus vulgaris.

DR. SWEITZER favored the view that lupus erythematosus was a tuberculide in the same way that sarcoid was a tuberculide.

DR. OLSON stated that in all probability lupus erythematosus was a tuberculide. A tuberculide was due to the direct action of the B. tuberculosis and was simply one of the forms of tuberculosis of the skin, as a syphilide was one of the forms of syphilis of the skin.

**LOCALIZED HYPERIDROSIS.** Presented by DR. SWEITZER.

The patient, a man, aged 34 years, presented a deep red area on the back of the left hand and forearm. Since childhood this area had poured out sweat three or four times a day. The amount was very large, the excess of sweat dropping on the floor.

DISCUSSION.

DR. STOKES cited a case that he had seen that had involved exactly half of the face."

**ONYCHIA SYPHILITICA UNIVERSALIS.** Presented by DR. OLSON.

All the fingernails and toe nails of this patient, a man, aged 30 years, were involved and had fallen off as a result of syphilis. The patient showed also a very marked typical luetic alopecia. There were no other lesions of syphilis. The lesions were dry and showed no pus. The Wassermann reaction was four plus.

DISCUSSION.

DR. ARMSTRONG stated that he had seen this patient some time before, and at that time he had paronychia as well as onychia.

## BOOK REVIEW

SKIN CANCER. By HENRY H. HAZEN, A.B., M.D., Professor of Dermatology in the Medical Department of Georgetown University; Professor of Dermatology in the Medical Department of Howard University; Sometime Assistant in Dermatology in the Johns Hopkins University; Member of the American Dermatological Association. With 97 text illustrations, and one colored frontispiece (251 pages). St. Louis: C. V. Mosby Company, 1916.

The author of this excellent work on cutaneous cancer has given medical literature a valuable addition. He has included under a definite title more than one would suppose the latter to embrace. This indicates excellent judgment for he has regarded the main theme of his studies, cancer, in its relation to other cutaneous tumors both congenital and acquired. In addition to this the *nævi* have not been neglected. Thus cancer of the skin has been made a central figure about which have been grouped many intimately and remotely allied conditions. The important things to be considered are the malignant growths and these have received proper emphasis. All the other conditions referred to have been handled with more or less stress, according to their practical significance.

Whereas it is unlikely that many views and interpretations recorded in the book would receive unanimous endorsement, differences of opinion would arise rather about unessential than essential matters—such as benign lymphatic growths, the true nature of trichoepithelioma and the like.

The analysis of the treatment of cancer is splendid. No one can deny the rationality of liberal removal of the growth. Many might, however, be justified in questioning whether Roentgen and radium therapy should not rank at least equally with surgery.

From the standpoint of the expert dermatologist the volume is attractive because it collects in an orderly manner many facts which it is convenient to have classified accessibly. For the general practitioner whose aim it is to place himself abreast of the times the book is unsurpassed, for it leaves no important fact untouched. The style is lucid and direct and the entire exposition is simple. No words are wasted, and very few questions that can to-day be answered remain unanswered.

W. J. H.

# THE JOURNAL OF CUTANEOUS DISEASES

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## EDITORIAL

### THE SALVARSAN PATENTS AND THE POWERS OF CONGRESS.

The supply of salvarsan in the United States is greatly impaired and there appears to be no likelihood of a restoration of the supply from abroad. It is unfortunate that the government grants patents on medicaments of vital importance to the public health. Of course the theory of patents is based upon the idea that an individual who invents something that is new and useful is entitled to compensation for the same. If the reward which patents confer did not exist it is believed that there would be less stimulation to inventive effort. Furthermore, inventors might keep secret the nature of the articles which their genius had called into existence. While these facts are admitted yet it must be recognized that patents confer the right of monopoly of manufacture and sale. In connection with such substances as diphtheria antitoxine, salvarsan and the like medicinal agents, which are not only curative for the individual but likewise of great protective influence to the community generally, it is extremely doubtful whether the granting of such monopolies is in the interests of the public welfare.

The United States has granted comprehensive process and product patents on salvarsan. If any one in this country could produce a salvarsan derivative which would be 100 times more curative or 100 times less toxic, the patentees could effectually prevent the use of such a compound. Such a condition of affairs obviously operates against the public welfare. Moreover, the monopoly permits the owner to market his product at any price that he may determine upon. Without any intent to criticise any one in connection with the cost price which has been placed on salvarsan, there is no question that the cost in this country makes the remedy inaccessible to hundreds of thousands of

persons who are in dire need of it. If salvarsan could be placed in the hands of hospital authorities at one dollar or less per ampoule, and this could be done if some one in this country possessed the unrestricted right to make and market it, an enormously greater use of the drug could be made. Tens of thousands of indigent sick, who are now debarred from the use of this remedy, would have it made available to them. There are perhaps five million persons in the United States who are in need of this drug. A large percentage of these persons have contracted syphilis innocently—many of them are wives and children. What a great boon it would be if this drug could be freely and adequately administered to them. The ultimate importance to the country is incalculable. Is there no remedy for the situation? Is the government entirely impotent to relieve the existing condition?

The problem is a difficult one. The owner of a patent may not be deprived of his rights thereunder nor of his emoluments, thereof, because such action would violate the provisions of the Constitution "that no person shall be deprived of his life, liberty or property without due process of law." It is generally admitted that patent rights are property in the full sense of the word. The owner of a patent is entitled to the same protection for his patent right that the owner of any other species of property may enjoy. (Walker Patents, 4th edit. Sec. 151: Paper Big Patent Case; 210, U. S. 405, 1907.)

It has been repeatedly held by the courts in this country that a patentee has a right not to work or use his patent, and is under no obligation to manufacture, supply or market his patented product, and yet may enjoin others from doing so.

In the event of war between the United States and another country, a patent issued to a citizen or subject of the enemy country, would be entitled to the full protection of our laws. Incident, however, to its war making power, Congress has the power to authorize the confiscation of property within the United States of citizens of an enemy country. This power has been exercised by Congress particularly in the confiscation Acts of 1861 and 1862, the validity of which were sustained by the Supreme Court. Broad consideration of public policy would doubtless dictate that the mechanism of International commerce should be disturbed after the war as little as possible, and that property rights and individuals should be safe guarded. It would therefore have the right to suspend or abrogate patents of alien enemy subjects generally, or any specific patents in particular. If the patents



on salvarsan were suspended or abrogated, the government would probably follow the example of England, and license some laboratory to make the drug upon the condition that royalties should be paid to the government which would hold the same until the termination of the war for payment to the patentees whose rights of property in the patent were invaded by the government under stress of war. The salvarsan patents, however, demand special treatment in that the element of the public welfare enters vitally into consideration.

To the medical profession who recognize the unfortunate results upon the health of the present and future generations of a patent monopoly on such a drug as salvarsan, it seems strange that no permanent relief for such a situation can be afforded.

If Congress could be sufficiently impressed with the importance of making salvarsan available to the indigent sick, it could either abrogate the patents or indefinitely suspend them and decline to restore or rehabilitate the patents after the termination thereof. *Salus populi suprema lex*. Whether Congress could be persuaded to take such a drastic and unprecedented course would be a political rather than a juristic question.

J. F. S.

# ORIGINAL COMMUNICATIONS

## EXPERIMENTAL AND CLINICAL STUDIES OF THE TOXICITY OF DIOXYDIAMINO-ARSENOBENZOL DICHLORHYDRATE.\*

BY JAY FRANK SCHAMBERG, M.D., JOHN A. KOLMER, M.D., AND  
GEORGE W. RAIZISS, PH.D., PHILADELPHIA.

Within the past five years an enormous number of publications have appeared bearing upon the clinical results of the administration of dioxydiamino-arsenobenzol dichlorhydrate, marketed by the Farbwerke Hoechst Company of Frankfurt, Germany, under the name of salvarsan. The accumulated experience on this subject has definitely established the fact that this drug is the most remarkable synthetic chemical compound introduced into medicine, and is the premier remedy in syphilis, yaws (frambæsia), relapsing fever, and in certain other affections. Millions of doses of salvarsan and of essentially identical compounds marketed under various names, have been administered. A number of accidents and fatalities have resulted, which although small in proportion to the vast number of doses given, constitute in the aggregate a sufficiently imposing number, to warrant greater attention and study of the toxicity of dioxydiamino-arsenobenzol, and of the factors bearing upon it, than have been devoted to it in the past.

Although arseno-compounds were first produced by Michaelis a number of years ago, it remained for the genius of Ehrlich to build up step by step the remarkable substance which we know as salvarsan. In per-

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\* From the Dermatological Research Laboratories of the Philadelphia Polyclinic and College for Graduates in Medicine.

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fecting this wonderful remedy, Ehrlich confirmed in a convincing manner, a number of hypotheses concerning biochemical affinities and thus established upon a firm basis the new science of chemotherapy. This new science is pregnant with the greatest possibilities for the good of the human race. The medical profession is essentially conservative in accepting evidence of the worth of therapeutic agents. Ehrlich passed through many of the tribulations that Jenner, Pasteur and others have endured in defending against attack the remedies that they had brought into existence to combat disease. Ehrlich was for quite a period of time on the defensive, protecting the reputation of salvarsan against critical accusations made against it chiefly in Vienna and Paris.

In securing support for his arguments, he gladly availed himself of the results of investigations of a number of his medical colleagues. His exculpation of salvarsan as the cause of the neurorecidives has been justified by a more extended experience with the drug. His interpretation of the causes of the reactive manifestations not infrequently following the use of salvarsan does not, however, appear to explain all of the facts. Our experiments persuade us to believe that there are certain factors of importance to which sufficient attention has not been paid. The present studies were undertaken with the view of shedding some additional light upon the complex and important subject of the toxicity of salvarsan. We shall first consider the influence of certain factors related to the technique of administration of the drug, and their bearing upon toxicity.

#### INFLUENCE OF CONCENTRATION OF SOLUTION ON TOXICITY.

We endeavored to investigate in the laboratory the influence of the concentration of salvarsan solutions upon the toxicity of the drug. The medicament was administered intravenously to rabbits in sterile distilled water, in varying amounts. In the subjoined table, the results of experiments on eleven rabbits are detailed.

As in all biological experiments of this character, there are some un-

TABLE 1. INFLUENCE OF CONCENTRATION UPON THE TOXICITY OF ARSENOBENZOL.

No.	Wt. in grms.	Dose administered	Equivalents per 60 kilos.	Results	
				at once	Duration of life
1	1210	.010 per K in 0.4 cc.	0.6 gm. in 24 cc. H <sub>2</sub> O	—	Died 2 days
2	1220	.020 " " 0.4 "	1.2 gm. " 24 " "	—	" 26 "
3	1276	.010 " " 0.8 "	0.6 gm. " 48 " "	—	" 29 "
208	1285	.060 " " 15 "	3.6 gm. " 900 " "	—	Lived indefinitely
205	1285	.060 " " 10 "	3.6 gm. " 600 " "	Convulsions	" "
206	1475	.060 " " 8 "	3.6 gm. " 480 " "	Convulsions	Died at once
207	1474	.060 " " 6 "	3.6 gm. " 360 " "	Death	Lived indefinitely
209	1634	.060 " " 4.3 "	3.6 gm. " 258 " "	—	" "
214	1565	.060 " " 2 "	3.6 gm. " 120 " "	—	" "
52	1925	.060 " " 2 "	3.6 gm. " 120 " "	—	" "
61	1615	.060 " " 1 "	3.6 gm. " 60 " "	—	Died 27 days

accountable discrepancies. For instance, a rabbit receiving 10 mg. of arsenobenzol per kilo, died in two days, whereas a number receiving 60 mg. per kilo survived. The experiment in general, however, permits of quite positive deductions. It is seen that the medicament was borne in concentrations as great as 60 mg. per kilo in 1 cc. of water. This would represent 3.6 gms. in 60 cc. for a man weighing 125 pounds. These studies indicate that increasing the concentration of the drug does not augment its toxicity, as determinable by the duration of life of the injected animal.

#### THE INFLUENCE OF NON-NEUTRALIZED OR ACID SOLUTIONS ON TOXICITY.

Salvarsan and arsenobenzol were each administered intravenously in acid solution in graded doses to ten white rats. The amount of water used was 1 cc., the usual amount employed in our toxicity experiments on rats.





The results of these experiments are most uniform and striking. From the tables presented below it is seen that with salvarsan all of the doses above 50 mg. per kilo, led to an immediate death, and the animal receiving 50 mg. was extremely toxic, but recovered. With our product, arsenobenzol, 40 mg. per kilo and all of the doses higher than this, produced an immediately fatal result. In both instances the doses lower than this were well borne. If we compare with these charts, Chart 4, showing the toxicity of the neutralized or alkaline solutions of arsenobenzol, a striking contrast is observed. In these the medicament is tolerated ordinarily in doses of 90 to 100 mg. per kilo of body weight. It is thus seen that failure to add alkali to the solution, increases the toxicity 50 to 60 per cent. It is significant that all of the fatalities occurred *immediately* after injection, indicating in all probability that death was due to the action of the drug on the higher nerve centres. In instances in which there is only a moderate increase of toxicity of the drug, it is common for the animals to die after a lapse of days, the duration of life depending upon the degree of toxicity and the amount of the drug employed. In the experiment above referred to, death with 60 mg. of the medicament occurred just as rapidly as with 100 mg.

It has been shown by Auer that the toxicity of acid solutions of salvarsan is proportionate to their concentration. The concentration of the solutions employed by us in the experiments referred to, was about one-half to one per cent. This would represent 0.6 gms. in 60 to 100 cc. of water. In much weaker concentration the toxicity would doubtless be less. Joseph demonstrated that acid solutions produce a precipitate in the blood which may be actually seen in the lungs and in the right ventricle of experimental animals. He assumed that emboli might develop in the capillaries of the lungs. Von Miessner found on autopsy thromboses in the lungs of cattle suffering from hoof and mouth disease that had received acid solution of salvarsan. The alkaline solutions even in strong concentration did not produce precipitates. In a later communication Joseph published experiments on the influence of acid solutions of salvarsan on the blood in the test tube. One-tenth of one per cent. solutions had no effect on the consistence of the blood, but in a concentration of one per cent. or more, the precipitate may be so pronounced as to cause the blood to lose its fluid nature. Our experiments above detailed, indicate that *non-neutralized or acid solutions of salvarsan in one-half to one per cent. concentration (equivalent to 0.6gms. in 60 to 100 cc.) are 50 to 60 per cent. more toxic in the white rat than the alkaline solution.*

## 5 THE INFLUENCE OF THE AMOUNT OF ALKALI ADDED, UPON TOXICITY.

Inasmuch as sodium hydrate solution may be inadvertently added in excess in neutralizing the solution of salvarsan, it was thought advisable to determine any alterations of toxicity induced by the superfluous addition of this substance. In this experiment three rats were injected with one cc. of a solution of arsenobenzol (D. R. L. product) representing 100 mg., 80 mg. and 60 mg. per kilo respectively. This solution, which was properly neutralized, was employed as a control comparison. The two highest doses were well tolerated. (The animal receiving the lowest dose died on the 14th day. This death has no significance, as the two receiving higher doses survived. These accidental deaths are common in rats, occurring at times even in animals which have not been injected.)

TABLE 4. TOXICITY OF ARSENOBENZOL (PREP. NO. 75) IN ALKALINE SOLUTION BY INTRAVENOUS INJECTION.

No.	Wt. in grms.	Dose per 100 grms.	at once	Results—days																		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	93	.015	D 25 min.																			
2	105	.012	D 5 min.																			
3	133	.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	93	.009	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	87	.008	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	85	.007	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	72	.006	—	—	—	—	—	—	—	—	—	—	—	D*	—	—	—	—	—	—	—	—
8	122	.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	140	.001	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	96	.009	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	85	.008	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	90	.007	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	86	.006	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	113	.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

\* Death probably accidental.

TABLE 5. THE INFLUENCE OF ALKALI UPON THE TOXICITY OF ARSENOBENZOL BY INTRAVENOUS ADMINISTRATION.

No.	Wt. in grms.	Dose per 100 grms.	Solution	at once	Results—days																
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	32
1	70	.01	Neutral	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	92	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	69	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	—	—	—
4	65	.01	with 0.5 cc. excess NaOH per 100 cc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	89	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	—	—
6	102	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	70	.01	with 1.0 cc. excess NaOH per 100 cc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	70	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	60	.006		—	—	—	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—
10	40	.01	with 2.0 cc. excess NaOH per 100 cc.	—	—	—	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—
11	55	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	77	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	—	—	—
13	48	.01	with 3.0 cc. excess NaOH per 100 cc.	—	—	—	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—
14	62	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	67	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	99	.01	with 5.0 cc.	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17	110	.008	excess NaOH	P	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18	100	.006	per 100 cc.	P	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

D = Death of Animal.

P = Paralysis.

P<sup>1</sup> = Paralysis followed by recovery.

A second series of four rats received a solution of the drug to 100 of which 1 cc. of a 15 per cent. solution of sodium hydrate was added in excess of the amount required to neutralize. All of these rats survived except one which died on the fifteenth day.



A third series of four rats, received a solution of the drug to 100 cc. of which 1 cc. of a 15 per cent. solution of sodium hydrate was added in excess of the amount necessary to neutralize. All of these rats survived, with the exception of the one receiving the lowest dose. (This must therefore be regarded as an accidental death.)

A fourth series of three rats received a solution of the drug to 100 cc. of which 2 cc. of a 15 per cent. solution of sodium hydrate was added in excess of the amount necessary to neutralize. Two of these three rats died. We have in this experiment the first evidence of increased toxicity resulting from excess of alkali.

TABLE 6. THE RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTION OF ARSENOBENZOL IN WATERS OF DIFFERENT SOURCES.

No.	Wt. in. grms.	Dose per 100 grms.	Solution	at once	Results—days																
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	21	
1	130	.01	River water; sterilized	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2	75	.009		—	—	—	—	—	—	D	—	—	—	—	—	—	—	—	—	—	
3	80	.007		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
4	85	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	
5	90	control		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6	68	.01	Tap water; sterilized	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7	70	.009		—	—	—	—	—	—	—	—	—	D (accidental)	—	—	—	—	—	—	—	
8	86	.008		—	—	—	—	—	—	—	—	—	D	—	—	—	—	—	—	—	
9	73	.007		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10	99	.006		—	—	—	—	—	—	—	—	—	D	—	—	—	—	—	—	—	
11	114	control		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12	69	.01	Hydroxia;* sterilized	—	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	
13	88	.009		—	—	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	
14	70	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
15	67	.007		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
16	62	.006		—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
17	60	control		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

\* A commercial distilled water.

A fifth series of three rats received a solution of the drug to 100 cc. of which was added 3 cc. of a 15 per cent. solution of sodium hydrate in excess of the amount necessary to neutralize. The animal receiving the highest dose, 100 mg. per kilo. died on the 5th day; the other two rats survived.

A sixth series of three rats received a solution of the drug to 100 cc. of which was added 5 cc. of a 15 per cent. solution of sodium hydrate in excess of the amount necessary to neutralize. With the highest dose, 100 mg. per kilo, immediate death occurred. The rat receiving 80 mg. per kilo developed immediate convulsions, recovered, but died the next day. The rat receiving 60 mg. per kilo developed convulsions, but recovered and lived indefinitely.

The injections were given into the exposed jugular vein with a hypodermic syringe. These experiments indicate that an excess of alkali *per se* does not increase the toxicity of salvarsan, until an amount approximating 2 to 5 cc. of a 15 per cent. solution in excess of neutralizing requirements, has been added.

That an excessively alkaline solution may irritate the veins and produce venous thrombosis is a view generally held. Although this is doubtless true, we did not observe this result in the rat, nor is there an opportunity of observing any reactive phenomena in the rat that might be induced by an excess of alkali. The only criteria that we possess in our experimental studies on animals is the duration of the life of the animal.

#### THE INFLUENCE OF THE PURITY OF THE WATER ON TOXICITY.

An effort was made by us to determine the influence on toxicity of the source and character of the water used for dissolving arsenobenzol. A number of experiments were carried out, and as occurs so commonly in experiments of this character, somewhat discrepant results were obtained. We cannot too strongly emphasize the observation that these charts must be viewed in bold perspective in order that any deduction may be drawn. For instance, animals dying late (i.e., after the 14th or 15th day) may die from trauma inflicted by their fellow animals or from some other accidental cause. As indicating that these deaths are commonly not to be attributed to the medicament, we call attention to animal No. 23 in Table 7 that died on the 25th day. This was a control animal that received only an injection of water. Where several deaths occur early from the administration of the same solution, significance must be attached to such results.

TABLE 7. (A CONTINUATION OF TABLE 9.) THE RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTION OF ARSENOBENZOL IN WATERS OF DIFFERENT SOURCES.

No.	Wt. in grms.	Dose per 100 grms.	Solution	at once	Results—days														
					1	2	3	4	5	6	7	8	9	10	11	12	21		
18	67	.01	Water distilled once	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
19	70	.009		—	—	—	—	—	—	—	—	—	—	—	—	—	—		
20	80	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	D		
21	64	.007		—	—	—	—	—	—	—	—	—	—	—	—	—	—		
22	80	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—		
23	90	control		—	—	—	—	—	—	—	—	—	—	—	—	—	D		
24	80	.01	Water distilled three times	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
25	80	.009		—	—	—	—	—	—	—	D	—	—	—	—	—	—		
26	72	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—		
27	75	.007		—	—	—	—	—	—	—	—	—	—	—	—	—	—		
28	70	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—		
29	80	control		—	—	—	—	—	—	—	—	—	—	—	—	—	—		

Five rats received arsenobenzol in distilled sterilized water. One death occurred on the 21st day and may be regarded as accidental. In this series a control rat that received no treatment died on the same day. Five rats received arsenobenzol in sterile, thrice distilled water. Of this number one rat died.

A second series of experiments gave somewhat discrepant results as compared with the above.

Four rats received arsenobenzol in *sterilized river water filtered through filter paper*. Of this number the rat receiving the maximum dosage died, the other surviving.

Four rats received arsenobenzol in *sterilized tap water*: all of these animals lived throughout the entire period of observation.

Four rats received arsenobenzol in *sterilized hydrovia water*: the two animals receiving the highest dosage died on the 7th and 8th days.

Four rats received arsenobenzol in *sterile, thrice distilled water* and all survived throughout the period of the experiment.

TABLE 8. THE RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTION OF ARSENOBENZOL IN WATERS OF DIFFERENT SOURCES.

No.	Wt. in. grms.	Dose per 100 grms.	Solution	at once	Results—days																					
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	90	.01	River water; filtered through paper; sterilized	D																						
2	110	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	100	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	114	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	102	.01	Tap water; sterilized	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	87	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	100	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	67	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	88	.01	Hydroxia;* sterilized	—	—	—	—	—	—	—	—	D														
10	122	.008		—	—	—	—	—	—	—	—	—	D													
11	87	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	85	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	102	.01	Thrice distilled water	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	116	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	127	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	68	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17	85	.01	Distilled water; solution boiled ½ hour	—	—	—	—	D																		
18	100	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19	107	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	95	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

\* A commercial distilled water.

Four rats received arsenobenzol in *distilled water* which was subsequently *boiled for one-half hour* after addition of the drug. The rat receiving the highest dosage died on the 3rd day: the remaining animals survived.



SUMMARY. It is most difficult to draw deductions from these experiments that will stand the test of scientific scrutiny. In the sterilized tap water series, two deaths occurred out of five animals in one experiment, and in a second experiment with tap water no deaths occurred. Taking the experiments all in all, however, we are perhaps justified in deducing that the mortality was least in the fresh distilled water series. In the four series of rats (representing in all 18 animals, in which *fresh distilled* water was used), but three deaths occurred. In the six series of rats, representing in all 24 animals, in which *non-distilled* or *old*

TABLE 9. RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTION OF ARSENOBENZOL IN NEUTRAL SOLUTION EXPOSED TO THE AIR FOR VARYING INTERVALS OF TIME.

No.	Wt.in. grms.	Dose per 100 grms.	Solution	at once	Results—days									
					1	2	3	4	5	6	7	8	9	10
1	70	.01	1 hour; clear; no color change	—	—	—	—	—	—	—	—	—	—	—
2	62	.008		—	—	—	—	—	—	—	—	—	—	—
3	62	.006		—	—	—	—	—	—	—	—	—	—	—
4	70	.004		—	—	—	—	—	—	—	—	—	—	—
5	74	.002		—	—	—	—	—	—	—	—	—	—	—
6	60	.01	3 hours; clear; no color change	—	—	—	—	—	—	—	—	—	—	—
7	75	.008		—	—	—	—	—	—	—	—	—	—	—
8	58	.006		—	—	—	—	—	—	—	—	—	—	—
9	72	.004		—	—	—	—	—	—	—	—	—	—	—
10	72	.002		—	—	—	—	—	—	—	—	—	—	—
11	65	.01*	5 hours; opalescent slightly darkened	—	—	—	—	—	—	—	—	—	—	—
12	64	.008		—	—	—	—	—	—	—	—	—	—	—
13	70	.006		—	—	—	—	—	—	—	—	—	—	—
14	56	.004		—	—	—	—	—	—	—	—	—	—	—
15	62	.002		—	—	—	—	—	—	—	—	—	—	—

\* This dose not injected.

TABLE 10. (A CONTINUATION OF TABLE 15.) RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTIONS OF ARSENOBENZOL IN NEUTRAL SOLUTION EXPOSED TO THE AIR FOR VARYING INTERVALS OF TIME.

No.	Wt. in grms.	Dose per 100 grms.	Solution	at once	Results—days									
					1	2	3	4	5	6	7	8	9	10
16	60	.01	24 hrs. old; heavy ppt.; very dark color	—	—	D								
17	59	.008		—	—	D								
18	79	.006		—	—	—	—	—	—	—	—	—	—	—
19	57	.004		—	—	—	—	—	—	—	—	—	—	—
20	55	.002		—	—	—	—	—	—	—	—	—	—	—
21	90	.01	48 hrs. old; heavy ppt.; very dark color	—	—	D								
22	83	.008		—	—	—	—	—	—	—	—	—	—	—
23	60	.006		—	—	—	—	—	—	—	—	—	—	—
24	59	.004		—	—	—	—	—	—	—	—	—	—	—
25	112	.002		—	—	—	—	—	—	—	—	—	—	—

*distilled* water was employed, 10 deaths occurred. This would appear to indicate that the use of arsenobenzol or salvarsan in non-distilled or old distilled water may increase its toxicity.

#### THE INFLUENCE OF THE AGE OF THE SOLUTION AND THE FACTOR OF OXIDATION ON TOXICITY.

Salvarsan is a drug in which the nitrooxyphenylarsinic acid is reduced to the arseno compound. If insufficient reduction takes place or if the drug undergoes oxidation later, a substance known as arsenoxide (aminoxyphenylarsenoxide) is formed. This compound has a higher toxicity than salvarsan. On this account all precautions are taken to prevent access of oxygen to the drug. The powder is dispensed in air-free ampoules and the solution is advised to be freshly prepared.

Inasmuch as certain accidents following the use of salvarsan have been attributed to defective ampoules permitting of oxidation or of improper technique which led to the same result, we have thought it



TABLE 12. RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTION OF SALVARSAN IN FRESH AND EXPOSED SOLUTIONS (NEUTRAL).

					Results—days																		
No.	Wt. in grms.	Dose per 100 grms.	Solution	at once	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	24	
1	85	.01	Fresh neutral solution	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2	85	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
3	65	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
4	69	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5	95	.01	Solution partly filling a 100 cc. cylinder; 24 hrs. old. Very cloudy	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6	97	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7	73	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8	74	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
9	72	.01	Solution partly filling a 25 cc. cyl., 48 hrs. old. Heavy precipitate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	—	—	—	—	
10	74	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
11	63	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	—	—	
12	77	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
13	73	.01	Solution in 15 cc. cyl. to stopper 5 days old; no color change	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
14	73	.008		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
15	72	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
16	57	.004		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	—	

after three hours and five hours, although in the 5-hour solution the liquid was opalescent and slightly darkened.

At the end of 24 hours a heavy precipitate, very dark in color, had



formed. An increased toxicity is here noted as the two animals receiving the highest dosage both succumbed on the second day. Curiously enough, at the end of 48 hours the toxicity of the solution had not further increased; indeed only the rat receiving 10 mg. per 100 gms. died.

TABLE 13. RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTION OF ARSENOBENZOL IN NEUTRAL SOLUTION EXPOSED TO THE AIR FOR VARYING INTERVALS OF TIME.

[illegible]

TABLE 14. (A CONTINUATION OF TABLE 13.) RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTION OF ARSENOBENZOL IN NEUTRAL SOLUTION EXPOSED TO THE AIR FOR VARYING INTERVALS OF TIME.

No.	Wt. in grms.	Dose per 100 grms.	Solution	at once	Results—days															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	34
16	97	.01	48 hrs. old;	—	—	—	—	—	D											
17	75	.009	heavy ppt.; very	—	—	—	D													
18	95	.008	dark color; in a	—	—	—	—	D												
19	90	.007	100 cc. cyl.	—	D															
20	95	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21	85	.01	96 hrs. old; very	—	—	—	—	—	D											
22	68	.009	heavy ppt.; very	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
23	80	.008	dark color	—	—	—	—	—	—	—	—	—	—	—	—	—	—	D		
24	80	.007	in a 100 cc. cyl.	—	—	—	—	—	—	—	—	—	D							
25	87	.006		—	—	—	—	—	—	—	—	—	—	D						

A solution of another batch of arsenobenzol was allowed to stand in a mixing cylinder for 23 hours. This solution killed four out of the eight rats, although the deaths were irregular and did not run parallel with the dosage.

A freshly prepared solution of salvarsan was administered to four



rats. All survived with the exception of the one receiving the highest dosage.

A 24-hour old, cloudy solution, partly filling a 100 cc. cylinder, was administered to four rats with the same result as with the fresh solution.

At the end of 48 hours, a solution partly filling a 25 cc. cylinder had developed a heavy precipitate. Two out of the four animals receiving this solution died on the 14th day.

A solution was kept in a 15 cc. cylinder filled to the glass stopper for five days: no color change took place. This solution was tolerated in the three highest doses, but the animal receiving the lowest dose died. It is not improbable that this death was accidental.

Table 13 shows a series of experiments with another arsenobenzol product.

A two-hour old solution with no color change killed two animals out of the five injected.

A 24-hour old solution with a dark olive color and a heavy precipitate, killed three out of the five animals injected.

Another 24-hour old solution with a slight precipitate and a dark color, caused the death of all five of the animals injected.

A 48-hour old solution with a heavy precipitate caused four fatalities among five animals injected, and a 96-hour solution produced the same result.

In this experiment a very remarkable result is noted. A solution of arsenobenzol, Preparation No. 95, was kept in a 25 cc. cylinder, full to the glass stopper for 19 days; no color change took place.

This solution was injected into five rats in doses from 60 mg. per kilo to 100 mg. per kilo: all of the rats survived indefinitely, thus indicating that there was no increase in toxicity whatsoever, although the solution was 19 days old. The fact must be emphasized that the solution *filled* the cylinder to the glass stopper, and that no color change took place.

A solution of arsenobenzol was placed in a 25 cc. cylinder for 19 days, but the cylinder was only partly full; the solution turned dark and a heavy precipitate formed. After clearing up the precipitate with a few drops of alkali, this solution was injected into five rats. Four of the five rats died, thus indicating a very distinct increase in toxicity.

A solution of arsenobenzol (Preparation No. 60) was allowed to stand in a cylinder filled to the stopper for 42 days; the solution developed a light orange color. Of five rats injected, only the animal



receiving the maximum dose of 100 mg. per kilo died. Even fresh solutions occasionally kill in this dose.

A solution of arsenobenzol (Preparation No. 60) was allowed to

TABLE 16. RESULTS OF TOXICITY TESTS BY INTRAVENOUS INJECTIONS OF ARSENOBENZOL FROM LONG OPENED AMPULES.

[illegible]

stand for 12 days in a partly filled cylinder: the solution became black in color. This solution was injected intravenously into five rats in the dose of 60 to 100 mg. per kilo, and remarkable to relate, all of the animals survived indefinitely.

Two ampoules of arsenobenzol (Preparation No. 60) were filed open and allowed to be exposed to the atmosphere for 18 and 41 days respectively. No color change took place in the powder. These preparations were then dissolved in the usual manner and each one injected into five rats. The animals receiving the maximum dose, in each instance, died, but the remaining rats all survived. As has been stated it is not uncommon for arsenobenzol to be tolerated in 90 mg. per kilo doses, as occurred with these opened tubes.

DISCUSSION. On first consultation of these tables and reading of the explanatory text, one might readily receive the impression that they contain a number of irreconcilable discrepancies. We feel that some interesting deductions may be drawn from these experiments and that the divergence of results may be satisfactorily explained.

Ehrlich and his colleagues have maintained that salvarsan was a readily oxidizable substance and that oxidation took place on exposure of the solution to the air for brief periods of time. On oxidation, a substance known as arsenoxide was formed, which was alleged to possess 20 times the toxicity of salvarsan.

Hata and Shiga say, "If dioxydiamino-arsenobenzol contains a trace of paraoxyphenyl arsenoxide (for convenience called arsenoxide) there is a much higher toxicity; the arsenoxide develops on simple standing of the solution, if there is contact with air"; and elsewhere they state that "one must inject as quickly as possible to avoid oxidation."

We recognize these general principles to be true, but on the basis of the experiments carried out by us, we are not in accord as to the rapidity of oxidation on standing and as to the degree of increased toxicity associated therewith. Furthermore we do not believe, from experiments carefully carried out, that the toxicity of arsenoxide is anything like twenty times that of commercial salvarsan. (This question will later be referred to at greater length.)

Salvarsan or arsenobenzol will undergo oxidation on exposure to air. This oxidation is most active when the drug is in alkaline solution, and it is least active when the drug is in the form of a dry powder. The oxidation, we believe, is in a general way, *proportionate to the*

*duration of contact with air, and likewise proportionate to the square surface of the column of liquid exposed to the air.* We have found that arsenobenzol in a partly filled Ehrlemeyer flask, where there is a large surface exposed to the air, undergoes oxidation much more readily than in a mixing cylinder. If a solution of arsenobenzol be kept in a glass stoppered bottle full to the stopper, so that there is no contact with the air, it may ordinarily stand a number of days without a material increase in toxicity. In TABLE 15 is recorded an experiment in which rats received the maximum doses of a solution of arsenobenzol which had stood for 19 days in a mixing cylinder without color change, and yet all of these animals survived indefinitely. The fact should here be recalled that the maximum dose administered would be equivalent to seven grammes for a man weighing 70 kilos (150 pounds). Furthermore, a 42-day old solution, which had turned to a light orange color, was tolerated almost as well.

A solution which was kept standing for 42 days in a partly filled cylinder and which had turned black, was tolerated in the highest doses administered. This result requires elucidation. While a darkening of color of dioxydiamino-arsenobenzol in alkaline solution on standing, is commonly associated with an oxidation of the arseno-group, with the formation of arsenoxide, we believe that this compound need not of necessity be formed. *The color change is not due to the production of arsenoxide, but to changes in the amino group.* We have found that the other amino compounds not containing arsenic will darken in color on exposure to the air.

Arsenoxide is a white substance and of itself would lead to a paling rather than to a deepening of the color of the solution.

An inspection of our tabulated experiments will, however, show that some of the aged solutions, with and without color changes, did develop increased toxicity on standing and exposure to air. This discrepancy, we believe, is explicable on the grounds that different batches of arsenobenzol and of salvarsan vary in their oxidizability. Salvarsan is an extremely complex compound which must pass through numerous chemical processes before its final elaboration and no two batches are absolutely identical. It may vary in its oxidizability, in its therapeutic properties and in its toxicity. We feel sure that some products will remain unoxidized under the same conditions that others will undergo oxidation.

In TABLE 4 we note that two tubes of arsenobenzol which had been used in rats 18 and 42 days respectively, after they had been opened, showed practically no increase of toxicity. The arsenobenzol in these tubes exhibited no color change. On the other hand, we have seen tubes which had a barely discernible crack or flaw in the glass, in which the drug after a brief period turned to a brownish color.

The above experiments were undertaken with the idea of determining the influence of the age of the solution and of oxidation on the lethal dose of the drug, with the purpose of shedding light upon the causes of toxicity. *There was no thought of drawing deductions which would lead to any relaxation of care on the part of practitioners in administering the drug. Salvarsan should be used as soon after the solution is prepared as possible.* If a few hours delay cannot be avoided, an excellent safeguard is to employ a cylinder which can be filled to the stopper with the solution.

#### REACTIVE MANIFESTATIONS AFTER THE USE OF DIOXYDIAMINO-ARSENOBENZOL (SALVARSAN).

The various reactive symptoms which not uncommonly follow the administration of salvarsan or its congeners, have been attributed by different clinical observers to widely diverse causes. The generally accepted views have undergone considerable modification from time to time. At the present day our knowledge of the subject is still imperfect and unsatisfactory. The hypotheses which have been advanced but inadequately explain the phenomena. The subject is particularly complicated because the physiologic and toxicologic effects of a relatively new and extremely complex compound are not accurately known. We have devoted considerable time to experimental studies bearing upon the causative factors involved in the production of salvarsan reactions.

In order that the phenomena developing after the administration of salvarsan may be better discussed, we have thought it wise to classify the symptoms into three groups: (a) the immediate symptoms; (b) the early symptoms and (c) the late symptoms.

(a) THE IMMEDIATE SYMPTOMS. These phenomena are observed during the intravenous administration of the drug or within a few minutes after the completion of the same. At times, patients during the



infusion of the solution, will state that they taste the drug. Inquiry will usually elicit the reply that the taste is like that of ether. A burning sensation of the tongue or lips may be complained of; these are usually the precursors of a train of other symptoms. The first objective evidence of immediate reaction is flushing of the face; this may be slight and transitory, or may be pronounced and accompanied by injection of the conjunctivæ, lachrymation, œdema and swelling of the lips, tongue and eyelids, an anxious expression of the countenance, nausea followed by vomiting and retching, and this in turn by profuse perspiration. In some cases cough, respiratory embarrassment and dyspnœa are observed. The pulse at first is full and bounding, but later slow and of very small volume, in which event it is usually accompanied by a pronounced pallor. In severe cases the patient may lose consciousness and the pulse may be scarcely palpable. In rare instances death has occurred. An urticarial eruption appearing during the congestive stage is one of the more uncommon manifestations, as is also a severe pain in the lumbar region. These symptoms may disappear within 15 to 30 minutes, and be followed by no other phenomena, or as more commonly happens, other symptoms develop within a brief period or several hours later. This secondary complex we prefer to discuss as GROUP B, as these symptoms not infrequently appear several hours after the injection of salvarsan, even when they are not preceded by the vasomotor phenomena just described.

GROUP B. EARLY SYMPTOMS. These symptoms consist of chilliness or a distinct rigor, headache, vertigo, nausea, vomiting, diarrhœa and rise of temperature, usually  $100^{\circ}$  to  $102^{\circ}$ F. But few of these may be present and they may be so mild as to merely make the patient feel "queer," or there may be repeated chills, numerous attacks of emesis and profuse and protracted diarrhœa. Occasionally severe pains in the legs and back are complained of. This group of symptoms usually passes off in 12 to 24 hours, and is followed by a feeling of lassitude or weakness. More uncommonly vomiting and diarrhœa, associated with some elevation of temperature, may continue for a number of days, the patient during this period being unable to retain any nourishment. In some cases the urine may be scant and contain albumen and casts.

Various eruptions have been observed at times after the administration of salvarsan, appearing either in a few hours or after several days.

The most common are urticarial, scarlatinoid and morbilliform erythemas, and in rare cases purpura. In some instances an itching of the skin or pruritus without accompanying eruption, has been noted. Most of these eruptions are ephemeral and disappear in a day or two. Later and more persistent eruptions have been observed to occur from 6 to 10 days after the administration of the drug. These late eruptions are more common after intramuscular injections. Some instances of universal exfoliating dermatitis have been reported, persisting for weeks, with fever and debility and sometimes leading to a fatal termination.

GROUP C. THE LATE SYMPTOMS. Delayed reactions may come on after twenty-four hours, in which event they usually consist of vomiting, fever and diarrhoea, similar to the intermediate reactions. More rarely serious and even fatal reactions may develop about three days after the administration of the drug. In these cases, the phenomena are referable either to the brain or the liver. In the severe cases there may be headache, vomiting, muscular twitchings, epileptiform convulsions, dilatation of the pupils, absent reflexes, coma and death. These symptoms are usually the expression of *adema of the brain or of encephalitis hæmorrhagica*.

Meirowsky and Kretzmer (*Prakt. Ergeb. auf dem Gebiet der Haut und Geschlechtsk.*, Wiesbaden, 1914) in their splendid monograph on the "Salvarsan Therapy of Syphilis," present a critical analysis of the fatalities following the use of salvarsan. Of 109 fatal terminations, recorded in literature, 41 per cent. occurred in the secondary period and 27 per cent. in late nerve syphilis. Three-fifths of the fatalities during the secondary stage resulted from encephalitis. Forty-five per cent. of these occurred in cases in which the dose exceeded 0.5 gms. Grouping all of the cases of single and multiple injections, 66 per cent. of the cases received doses over 0.5 gms. The size of the dose is therefore a most important factor in the causation of encephalitis. The danger decreases in proportion to the duration of the interval between the injections.

Another rare syndrome following the administration of salvarsan is characterized by severe *jaundice* accompanied as a rule by fever. This may appear in from three days to several weeks after treatment. Such accidents are much more frequent after intramuscular than after intravenous injections. Most cases of post-salvarsan jaundice pursue a favorable course, but there are exceptional cases which terminate fatally

with the symptoms and autopsy findings of acute yellow atrophy of the liver.

### THE CAUSES OF REACTION.

At the outset it should be clearly stated that there is no single cause that will explain the varied reactive phenomena following the administration of dioxydiamino-arsenobenzol. Indeed, it is possible that the various groups of symptoms may be due to different causes.

It will perhaps lead to greater clarity if we classify the causes of reaction under three heads. (1) Factors related to the patient: (2) factors related to the technique of administration; and (3) factors related to the chemical compound employed.

I. FACTORS RELATED TO THE PATIENT. There can be no doubt that individual susceptibility plays a part in reactions. Patients suffering from syphilis vary greatly in their physical condition and in the degree of functional and organic integrity of the various organs. As a class too, they are prone to be neurasthenic and the mental state at the time of injection doubtless influences the incidence of some of the less severe reactive phenomena. Patients may vary in their psychic response to the operation *per se*, in the manner in which they react to errors of technique, and in their susceptibility to the drug itself. Two individuals may receive a solution of the same drug prepared at the same time, and one may suffer reaction and the other remain free. One of the writers had a striking example of this in his practice. A physician and his patient each received half of the quantity of an alkaline solution of salvarsan from the same mixing cylinder. The physician shortly afterwards developed pronounced chills, elevation of temperature to 102°F, and severe pains in the legs; the other patient, contrary to instructions, ate a hearty meal an hour later and took a two hours' train ride to a neighboring city, but suffered no reaction. There can be no doubt, therefore, that the personal element may be a factor in causing or influencing reactive symptoms, but it is in our opinion, not the dominant factor.

II. FACTORS RELATING TO THE TECHNIQUE. These factors have been given much attention in literature and different observers have attributed great significance to one or another error of technique. The greatest interest and controversy have attached to the "water error" or "Wasserfehler" of Wechselmann. Wechselmann advanced the

hypothesis that water impurities, chiefly bacterial proteins, were largely responsible for the febrile and gastrointestinal reactions. This view was accepted and indorsed by Ehrlich, Max Müller and many others. Yakimoff and Yakimoff showed that the presence of bacteria in the salvarsan solution increased the toxicity to a varying degree, depending upon the type of organisms present. The colon bacillus increased the toxicity most, the bacillus pyocyaneus less, and other bacteria little or not at all. Gennerich believed that organic contamination of the water by saprophytes was the cause of a number of unfortunate consequences. He believed that certain poisonous substances in the bacteria are not destroyed by boiling, and that they may produce febrile reaction in the patient. Fresh distilled water that did not contain bacterial bodies was less apt to produce fever.

Arzt and Kerl, Nobel and Peller, Wachenfeld and others do not admit the "Wasserfehler" as the cause of fever. Luitheln and Mucha also dissent from this view and regard the fever as due to a resorption of broken down cell products; headache, vertigo and vomiting are also regarded by them as due to this cause. Neisser had previously, in 1910, advanced the view that the febrile symptoms were due to the rapid destruction of innumerable spirochæte and the setting free of endotoxines which reached the blood stream and induced the symptoms.

Emery believed that contamination of the water with copper, lead or silicates from the distilling apparatus increased the toxicity of salvarsan and caused reactive manifestations.

Gonder, at the request of Ehrlich, carried out on animals some experiments on the toxicity of salvarsan solutions to which small quantities of calcium and magnesium salts which are commonly found in tap water, were added. He found that these increased the toxicity of the drug.

Matzenauer believed that alkali which was dissolved out of the glass container, was a factor in reactions.

Dreyfus counseled doubly distilling the water and boiling the infusion apparatus in distilled water and not in ordinary water.

From this mass of divergent opinions it is difficult to draw any clear and definite deductions. While the "water error" is a factor in reactions, it is probably much less constantly responsible than has been alleged by Wechselmann and others. Many of the factors referred to are doubtless capable of causing fever and gastrointestinal symptoms in



certain patients, but no one of these causes is responsible for the majority of the reactions. There are other faults of technique which may likewise be responsible for reactions, such as the use of too hot or too cold water, too acid or too alkaline solutions, the employment of too small or too great a volume of water, the too rapid infusion of the solution, etc. Then too, the improper preparation of the patient for the injection or improper after-treatment. The intravenous administration of the drug shortly after the eating of a meal or the partaking of food too soon after the injection may induce gastrointestinal reactions. Physical over-exertion immediately before or directly after treatment may likewise be responsible for reactive phenomena.

III. FACTORS RELATED TO THE MEDICAMENT. We are strongly inclined to believe that in the interpretation of the causes of reaction following the administration of salvarsan (and we are employing this term to indicate dioxydiamino-arsenobenzol, irrespective of the trade name under which it is marketed), too great a stress has been laid upon errors of technique and upon personal factors, and too little attention has been paid to a study of causes related to the compound itself. In order to intelligently discuss this aspect of the question it is necessary to refer to the chemistry of the substance under consideration. Salvarsan is an extremely complex substance, perhaps the most complex drug employed in medicine. Before its final elaboration numerous intermediate products must be prepared. The purity of the final compound will depend to a certain degree upon the character of some of the precedent intermediate substances. Even if these be in a pure state, certain impurities are apt to develop during the process of reduction with sodium hydrosulphite. Salvarsan is precipitated by ether out of a hydrochloric acid methyl alcohol solution of the base; other substances in minute quantities may be precipitated in addition to salvarsan. Inasmuch as salvarsan cannot be purified by repeated crystallization, we cannot regard salvarsan as an absolutely pure compound. A number of analyses made by us corroborate this statement. Salvarsan does not give arsenic values quite up to the theoretical amount, and furthermore there are elements present which have no place in the chemical formula. We have found in our analyses that salvarsan contains on an average of one to two per cent. of sulphur; our own product, arsenobenzol, likewise contains sulphur. The sulphur doubtless becomes attached to the arsenic during the process of reduction.

Inasmuch as salvarsan is not an absolutely pure chemical substance, the drug in powder form will vary to a slight extent in different lots. Indeed, we doubt whether any two batches can be prepared which are identical in all respects. We have already stated that different serial products vary in their oxidizability. From numerous experiments which we have carried out we are convinced that they also vary to a certain extent in therapeutic properties and to a greater degree in toxicity. Unfortunately these variations cannot at the present time be determined by ultimate chemical analysis, but only by the biological effects of the drug.

With these prefatory remarks in mind, let us discuss the relation of variations in the drug to reactive phenomena following its use. Ehrlich and his associates have repeatedly called attention to the liability of dioxydiamino-arsenobenzol on exposure to air to undergo oxidation with the production of amino-oxyphenyl-arsenoxide. This arsenoxide might be present in the drug through insufficient reduction, although with care this is not apt to take place. Consideration of the formulæ of these two compounds will perhaps lead to a clearer idea of their relationship.

The commercial product always contains some arsenoxide but it is usually less than one per cent. Ehrlich states that the best preparations will contain from 0.5 to 0.8 per cent. of arsenoxide.

Ehrlich and Bertheim ("On the Hydrochloride of the 3.3 diamino-4.4 dioxy-arsenobenzol, and its Closely Related Derivatives," *Berichte d. Deutsch. Chem. Gesell.*, 1912, lxiv, No. 1, p. 764.) state that the toxicity of arsenoxide is very much greater than that of salvarsan. Like other arseno-compounds, the hydrochloride of dioxydiamino-arsenobenzol possesses the property of readily undergoing oxidation. Exposed to the air it will soon contain amino-oxyphenyl-arsenoxide; indeed the production of arsenoxide compounds takes place if the preparation is kept in an ordinary glass container. This fact is therefore of the greatest importance in the practical use of this remedy,

*because the amino-oxyphenyl-arsenoxide is about 20 times more poisonous than the pure hydrochloride of the arseno-compound."*

#### VARIATIONS IN THE MEDICAMENT AND THEIR RELATION TO THE IMMEDIATE REACTIVE SYMPTOMS.

We are firmly convinced that the complex of symptoms classed under GROUP A, and characterized by flushing, cedema, etc., and followed by pallor and in rare instances by syncope, are due to the drug administered and not to extraneous causes. Various descriptive adjectives have been applied to this syndrome such as vasomotor, angioneurotic, anaphylactoid and nitritoid. The milder grades of reaction bear a resemblance to the symptoms following the use of nitrite of amyl, and the severer types simulate rather closely the picture of anaphylaxis. Indeed, Swift maintains that they represent true anaphylactic phenomena. Swift (*Anaphylaxis to Salvarsan. Jour. Amer. Med. Assn.*, October 5th, 1912, lix, pp. 1236-1240) demonstrated that guinea pigs which have been sensitized by the injection of a mixture of guinea pig serum and salvarsan, and have been reinjected after a suitable time with the same mixture, show symptoms like those seen in anaphylactic shock. Swift believes that this phenomenon depends on an alteration of the native serum by salvarsan so that the homologous serum acts like a foreign proteid. It is pointed out that the symptoms resembling those of anaphylaxis which at times follow the administration of salvarsan, occur usually not after the first but only after one or more injections.

The vasomotor symptoms above mentioned we believe to be due to something in the drug which directly or indirectly (perhaps through anaphylaxis) induces a  *paresis of the blood vessels, characterized by dilatation and not infrequently by leakage of serum into the tissues.* We regard these symptoms, therefore, as *vasoparetic* in character. We do not believe that these symptoms are due to the pure molecule of the hydrochloride of dioxydiamino-arsenobenzol. From various experiments which we have carried out we strongly suspect that they are produced by *traces of an impurity in the drug.* We have devoted much study to discover the particular substance which gives rise to these symptoms but thus far our efforts have not been attended with success. We shall, therefore, in our discussion refer to this substance as

*substance X*. It is but natural that proof should be demanded of us of the hypothesis thus advanced. We shall endeavor to set forth the evidence as briefly as possible.

1. Different lots or batches of dioxydiamino-arsenobenzol (salvarsan or its congeners) vary in respect to the frequency with which they induce the immediate vasomotor or vasoparetic reactions. Experienced clinicians, we are sure, will agree that few or no reactions of this character occur after the use of certain lots of the drug, and on the other hand, other batches seem to be followed by an unusual incidence of such reactions. Dr. Ormsby of Chicago, and others have reported experiences of this character. To be sure, not all patients will exhibit vasoparetic reactions after the use of a poor product, nor will all remain free of these reactions after the employment of a relatively pure product. There are doubtless variations in susceptibility to *substance X*, and some patients will react against the minutest quantity while others will do so only in the presence of a large amount. It is a common experience for patients to repeatedly exhibit vasoparetic symptoms after salvarsan and yet remain free of such phenomena after the use of neo-salvarsan; the formaldehyde-sulphoxylate group in this compound is attached to the amino radical and the process which is employed seems to lessen the formation of *substance X*. Moreover, we have found that many patients who exhibited vasoparetic symptoms after salvarsan, did not do so after the use of arsenobenzol (Dermatological Research Laboratories). We do not wish to be understood as stating that the vasoparetic symptoms have not occurred after the use of our product but the frequency of such reactions has been extremely low and the intensity of these reactions as a rule, mild.

We have recently had the fortunate experience of producing two batches of arsenobenzol which presented most interesting features for comparison. One batch, No. 201, was remarkably well borne by patients and gave almost no reactions; the other, No. 241, gave an unusually high incidence of reactions, particularly of the vasoparetic type. What constituted the difference between these two products? There is no question in our mind that one contained more *substance X* than the other.

This *substance X* may make its presence known not only by vasoparetic symptoms and gastrointestinal reactions, but it may at times be discovered by toxicity experiments upon animals. Dr. Oliver S. Ormsby of Chicago, recently sent us two ampoules of dioxydiamino-arsenobenzol



from two different lots. We found that one was distinctly more toxic for rabbits than the other. We were later informed that the more toxic lot had given rise to such numerous reactions, that its use had to be abandoned; on the other hand, the second lot gave most satisfactory results as regards reactions.

#### WHAT IS THE NATURE OF SUBSTANCE X?

As previously stated, we have carried out numerous experiments to determine, if possible, the nature of the impurity which gives rise to the immediate and early reactions. Ehrlich laid great stress upon the development of arsenoxide in salvarsan solutions as a factor in reactions. He says, "Arsenoxide is readily formed by exposing the alkaline solution to the air, and in my personal opinion, this arsenoxide is the chief cause of the serious reactions so often complained of." There are many facts in our opinion which militate against this view. Quantitative analyses of salvarsan and arsenobenzol carried out by us showed that arsenoxide was present in both products, but in very small quantities, less than 1 per cent.

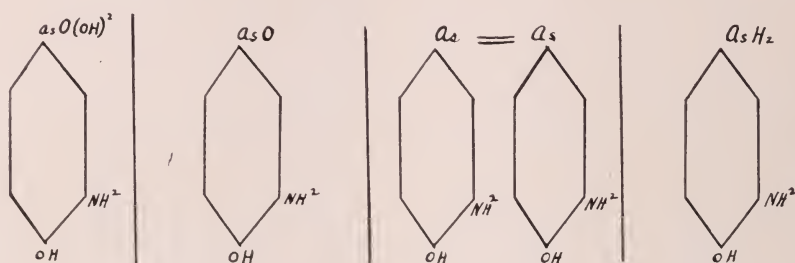
The oxidation of salvarsan in watery solution depends upon the duration of exposure, the temperature of the solution, the surface exposed to the air and the acidity or alkalinity of the solution. We have found that the process of dissolving arsenobenzol (and this is doubtless true of salvarsan) in hot water, with vigorous shaking, does not increase the arsenoxide content. A solution of arsenobenzol neutralized with sodium hydrate and allowed to stand for one hour at room temperature, did not show an increase in the amount of arsenoxide present. If arsenoxide were the cause of the vasomotor and the febrile and gastrointestinal reactions, then products which caused a high incidence of these reactions should contain more arsenoxide than those which produced few or no reactions.

*Samples of salvarsan and of arsenobenzol which exhibited variations in biological effect, as evidenced by differences in the lethal dose on animals and divergence in the incidence of reactions after human administrations, did not show any difference in the content of arsenoxide.*

Indeed our determination of the arsenoxide content of various lots of salvarsan shows that this did not vary to any material extent and

was practically always less than 1 per cent. Our tests confirmed in this respect the statement made by Ehrlich and Bertheim, who said that salvarsan contains from 0.5 to 0.8 per cent. of arsenoxide.

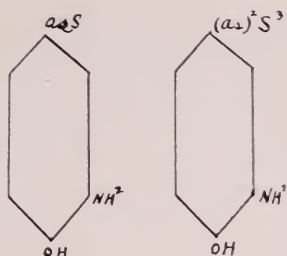
Salvarsan is a derivative of amino-oxyphenylarsinic acid (1). The latter, during the process of reduction passes through three stages.



- (1) Amino-oxyphenylarsinic acid.
- (2) Amino-oxyphenyl-arsenoxide (arsenoxide).
- (3) Dioxidyamino-arsenobenzol.
- (4) Amino-oxyphenylarsin (arsin).

In the manufacture of salvarsan (3) insufficient reduction might lead to the presence of arsenoxide. Excessive reduction might, on the other hand, convert a portion of the dioxidyamino-arsenobenzol into arsin. Arsin has a higher toxicity than salvarsan. While the formation of arsin in the process of manufacture of salvarsan is a possibility, quantitative determinations of the oxygen capacity of samples of salvarsan and of arsenobenzol which we carried out, failed to indicate in any of them the presence of arsin.

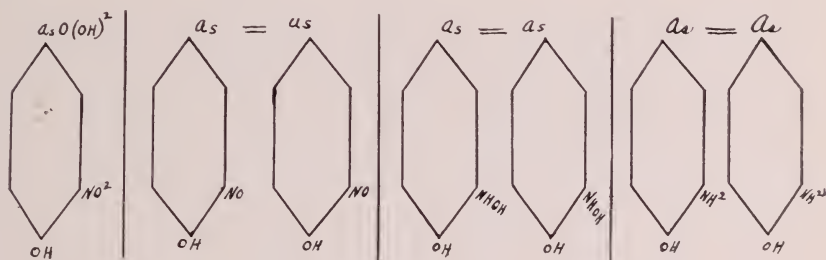
Inasmuch as salvarsan is produced by reducing the amino compound with sodium hydrosulphite, by-products containing sulphur are in all probability formed and remain in the final product in the form of an impurity. This is definitely proven by the fact that we find both in the German product and in our own, from one to two per cent. of sulphur. These by-products could be of the nature of amino-oxyphenylarsinsulphide.



- (1) Arsinsulphide.
- (2) Arsinesesquisulphide.

We have found the amino-oxyphenyl-sesquisulphide very toxic for rats. From various considerations, however, which space will not permit us to discuss, we cannot incriminate this compound as the *substance X* for which we are seeking.

Inasmuch as salvarsan is made by the reduction of the nitro-oxyphenyl-arsinic acid, there exists a possibility of the formation of certain intermediate products.



- (1) Nitro-oxyphenylarsinic acid.
- (2) The "nitroso" compound.
- (3) The "hydroxylamin" compound.
- (4) Dioxydiamino-arsenobenzol.

We have no data as yet bearing upon the toxicology of the two intermediate compounds. From a theoretic viewpoint there are at least six by-products which might constitute impurities in salvarsan: (a) arsenoxide; (b) arsin; (c) nitroso compounds; (d) hydroxylamin compounds; (e) arsin sulphide; and (f) arsinsequisulphide.

Salvarsan cannot be purified by a process of repeated crystallization which is ordinarily the method of preparing the purest chemical substances. It must of necessity, therefore, contain some impurities. We can only expect chemically pure substances to produce constancy in biological effects. It is reasonable to expect, therefore, that salvarsan would exhibit variations in toxicity on animals particularly when doses approaching the highest tolerated amount are administered.

#### TOXICITY TESTS OF SALVARSAN ON RABBITS AND RATS.

An effort was made by us to determine the maximum dose of salvarsan tolerated by rabbits by intravenous injection. Inasmuch as salvarsan is chiefly administered by intravenous infusion, we feel that the most trustworthy information as to toxicity would be acquired by administering the drug in this manner to animals.

Hata and Shiga (*Experimentelle Grundlage der Salvarsan Wirkung, Ehrlich Festschrift, Jena, 1914, p. 588*), in speaking of the toxicity of salvarsan, say "the thousand-fold tests carried out on each lot (*Operations Nummer*) of salvarsan in Speyerhaus, by Miss Leupold, warrants the assertion that 1 cc. of a 1/150 solution of salvarsan will be tolerated *subcutaneously* by a 20 gram normal mouse. The subcutaneous injection of 1 cc. of a 1/125 solution leads to a fatal termination in a proportion of the injected animals. This is the toxicity borderline. The tolerated dose of the alkaline solution is smaller if it be administered intravenously. A 20 gm. mouse will stand an injection of 1 cc. of a 1/350 solution. Hata and Shiga, in a table showing the toxicity of salvarsan by the intramuscular and intravenous routes in the mouse, rat, chicken and rabbit, indicate that the drug is tolerated by the rabbit intramuscularly in the dose of 150 mg. per kilo, and intravenously in the dose of 100 mg. per kilo. It is possible that with a laboratory product prepared with special care this might be the case, but it is not true of the commercial product as it is obtainable in the market.

The table herewith presented shows the toxicity of various tubes of salvarsan purchased in the open market. The drug was most accurately weighed and a carefully prepared alkaline solution made up, so that the properly calculated dose per kilo of body weight was contained in 15 cc. of sterile distilled water. This was injected with a Record syringe into an ear vein, the injection being interrupted for about a minute after two-thirds of the solution was injected, and then the remaining



portion administered. The value of any toxicity tests depends, of course, upon the conditions under which it is carried out and the criteria of toxicity which are established. One group of investigators might employ subcutaneous injection of the drug, and another intravenous administration. One group might interpret the toxicity upon the basis of the immediate lethal dose and regard all animals that survived this dose for 24 hours as having passed the test.

We endeavored to determine the *dosis tolerata* rather than the *dosis lethalis*, and we regarded the tolerated dose as one which the animal would survive for a period of two to four weeks. If a much longer period were established the animal might succumb to some intercurrent disease and thus obscure the results.

The size of the dose is obviously a consideration of the greatest importance. We at first attempted to administer 100 mg. per kilo, but found that this dose could not be tolerated. Doses of 70 mg. per kilo likewise led to immediate death. Rabbit No. 4 tolerated 60 mg. per kilo and lived for 21 days; this was a satisfactory test. From our toxicity tests on salvarsan and from tests carried out on hundreds of rabbits with our own preparation (arsenobenzol) we established 60 mg. per kilo as the standard dose.

An inspection of Table 19 reveals some rather interesting findings. Seventeen rabbits were injected with fifteen different serial numbers of salvarsan; the injection was repeated in two rabbits. Rabbit No. 12 tolerated 75 mg. per kilo and lived indefinitely, being killed by us on the 57th day. On the other hand, rabbit No. 5, died in a few minutes after the administration of 55 mg. per kilo: in order to determine whether a smaller dose would be tolerated, rabbit No. 6 was given 36 mg. per kilo of the same preparation and likewise died in a few minutes.

Of the fifteen preparations tested out, but five animals survived more than a few days. Two-thirds of the products, therefore, did not pass the standard which we have established. It might be urged with reason that rabbits may vary in their susceptibility to the drug and that a single animal test cannot be accepted as scientific evidence of the toxicity of a given preparation. We have found that there is a measure of truth in this statement. To determine the accuracy of our results, we tested out several of the preparations which were used on rabbits, in graded doses in a series of white rats.

The white rat is more resistant to salvarsan than the rabbit and will tolerate about 40 per cent. more of the drug per kilo of body weight.

TABLE 17. TOXICITY TESTS OF SALVARSAN (GERMAN PRODUCT) BY INTRAVENOUS ADMINISTRATION IN RABBITS.

Rabbit No.	Date of Injection	Weight of Rabbit	Dose	Death	Duration of life	Remarks
1	3.15.15	1783	100 mg.	3.15.15	Few minutes	
2	4.6.15	1676	70 mg.	4.6.15	" "	
3	4.6.15	1570	70 mg.	4.6.15	" "	
4	6.9.15	1050	60 mg.	6.30.15	21 days	
5	11.18.15	1681	55 mg.	11.18.15	Few minutes	Severe convulsions
6	11.16.15	2113	36 mg.	11.16.15	" "	Paralysis and convulsions same preparation as preceding
7	2.15.16	1595	60 mg.	2.15.16	" "	40 mg. violent convulsions; 20 mg. more killed. Prep. W.X.H. (A. 25803)
8	12.22.16	1419	52 mg.	2.23.16	1 day	Brief convulsions; recovery. Prep. L.L.J. (A. 23829)
9	2.25.16	1945	60 mg.	2.25.16	Few minutes	Convulsions L.B.X. A. 244475
10	2.25.16	1800	60 mg.	2.26.16	1 day	After 40 mg. convulsions; recovery; after 60 mg. severe convulsions. Prep. M.U.D. A. 19574
11	2.29.16	1806	60 mg.	2.29.16	Few minutes	After 40 mg. convulsions; After 60 mg. convulsions and death. Prep. M.X.B. A. 16939
12		1480	75 mg.			Killed at end of 57 days Preparation L.H.V.
13	2.29.16	1998	60 mg.			Killed at end of 49 days Prep. M.V.D. A. 21208
14	6.8.16	2120	60 mg.		Over a month	Prep. B.F.U. A. 27937
15	1.30.17	1800	60 mg.			Prep. B.F.D. A. 28001
16	1.30.17	1060	60 mg.	2.1.17	2 days	Prep. B.B.V. A. 27937
17	2.2.17	1060	60 mg.	2.7.17	5 days	Prep. B.B.V. A. 27937 Same preparation as above

This is all the more remarkable in view of the fact that a certain amount of traumatism is inflicted during the injection. The drug is injected in 1 cc. of sterile distilled water into the exposed jugular vein with a small Record syringe. The rat will ordinarily tolerate 9 to 10 mg. of salvarsan or arsenobenzol per 100 gms. of weight: this is the equivalent of 90 to 100 mg. per kilo.

TABLE 18. TOXICITY OF SALVARSAN IN RATS IN NEUTRAL SOLUTION BY INTRAVENOUS INJECTION.

No.	Wt.in grms.	Dose per 100 grms.	Product	at once	Results in days																		
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	70	.01	L.L.J.	—	—	—	—	D															
2	55	.009		—	—	—	—	—	—	—	—	—	—	—	—	D							
3	66	.008	A 23928	—	—	—	—	—	—	—	—	—	—	—	—	—	D						
4	48	.007		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	D	
5	45	.006		—	—	—	D																
6	45	.005		—	—	—	—	—	D														
7	45	.01	L.B.X.	—	D																		
8	50	.009		—	D																		
9	51	.008	A 24475	—	D																		
10	50	.007		—	—	D																	
11	53	.006		—	—	—	—	—	—	—	—	—	—	—	—	—	D						
12	58	.005		—	—	D																	
13	47	.01	M.U.D.	—	—	—	—	—	—	D													
14	45	.009		—	—	—	—	—	D														
15	40	.008	A 19574	—	—	—	—	—	—	—	D												
16	43	.007		—	—	—	—	—	—	D													
17	50	.006		—	—	—	—	—	D														
18	48	.005		—	—	—	—	—	—	—	—	—	—	D									

Rabbit No. 8 received 52 mg. per kilo of salvarsan (Prep. L.L.J.) and survived for one day. Table 20 shows that six rats receiving from 50 to 100 mg. per kilo, all died between the third and nineteenth days.





Rabbit No. 12 received 75 mg. per kilo of salvarsan (Prep. L.H.V.) and *lived indefinitely*.

Five rats receiving this preparation in doses of 40 to 100 mg. per kilo, *all survived* except the one receiving the lowest dose; this death was doubtless an accident.

A comparison of the toxicity tests of salvarsan in the rabbit and in rats has yielded a most remarkable parallelism, and the one therefore serves to confirm the accuracy of the other.

The tests which were carried out force one to the conclusion that there is a wide variation in the toxicity of salvarsan obtainable in the open market.

In connection with these tests, however, it must be remembered that the standard dose set by us, 60 mg. per kilo is very high, although not as great as Ehrlich and his colleagues stated that rabbits would tolerate. *Sixty milligrams per kilo of body weight would represent for a man weighing 70 kilos (about 150 pounds) a dose of 4.2 grams. This is seven times the maximum dose administered to man.*

Unfortunately we have but few data bearing upon the toxicity of salvarsan in the animal and its relation to toxic or reactive manifestations in man.

Dr. Oliver S. Ormsby of Chicago, sent us two unopened tubes of salvarsan, with the request that we test the same out on animals. Preparation B. F. D. was injected into rabbit No. 15, in the dose of 60 mg. per kilo. This animal is living after 30 days. Dr. Ormsby in a subsequent letter stated that this preparation gave satisfactory clinical results as regards reaction.

Preparation B. B. V. was administered to rabbit No. 16, in the dose of 60 mg. per kilo; this rabbit died at the end of two days. With the desire to avoid any inaccurate deductions, a second rabbit (rabbit No. 17) was then injected. This rabbit succumbed at the end of 5 days. Dr. Ormsby stated that preparation B. B. V. had caused severe reactions in his experience and in that of a number of his colleagues.

There is, therefore, some reason to believe that preparations which give the best toxicity tests in animals are prone to give the most satisfactory clinical results as regards reaction.

#### TOXICITY TESTS BY SUBCUTANEOUS INJECTIONS IN MICE.

In the circular of instructions accompanying the salvarsan ampoules is the following paragraph: "As any irregularity in the manufacture of salvarsan may cause the formation of by-products of enormous toxicity,

and as the supply of impure salvarsan would constitute a danger to patients, we have made arrangements with the Ehrlich Institute only to send out the preparation which has been tested biologically in the George Speyer House under his supervision, and certified by him to be of unimpeachable quality. Only such salvarsan is supplied of which the dose tolerated by mice injected subcutaneously amounts to 1 cc. 1/125 up to a maximum of 1/150 per 20 grammes live weight."

In addition to testing out the toxicity of dioxydiamino-arsenobenzol by intravenous injections in rabbits and in rats, we have recently begun a number of tests by subcutaneous injection in mice, according to the routine method of testing salvarsan in the Speyer House. We have not been able to confirm the statement that mice will tolerate 1 cc. of a 1/150 to 1/125 solution per 20 grammes of weight. This would represent the equivalent of 32.5 mg. to 40 mg. per 100 grammes of weight, or 325 to 400 mg. per kilo. In the subjoined tables (Tables 20 and 21) are shown the results of the subcutaneous tests in mice.

It will be seen that none of the three lots of salvarsan tested by us could be tolerated in the dose of 300 mg. per kilo, and only one lot of arsenobenzol was borne in this amount. One lot of salvarsan and one (B.B.V.) was not tolerated in this dose. The test with this lot corroborates the results obtained in rabbits by intravenous administration. It will be recalled that this lot gave rise to severe reactions.

It is freely admitted by us that the testing out of merely three lots of salvarsan by subcutaneous injections in mice does not permit us to make definite deductions as to the product. They are, however, in harmony with the rabbit and rat tests, and therefore have an added value. We have taken at random some of our arsenobenzol and have used these lots subcutaneously in mice; the results are given in Tables 20 and 21.

We are not convinced, however, that *substance X* can always be discovered by its toxicity record on animals. Indeed, some experiments which we have carried out cause us to maintain a degree of mental reservation on this point.

Rabbits that receive huge doses of dioxydiamino-arsenobenzol intravenously do not exhibit reactive symptoms; they either live and show no symptoms or they die. There are some phenomena manifested before death which are of interest. A few seconds after the intravenous injection of a lethal dose the pupils usually dilate widely and equally, although one may be dilated more than the other; the head is thrown

TABLE 20. RESULTS OF TOXICITY TESTS BY SUBCUTANEOUS INJECTION INTO MICE.

Drug	No.	Weight (Gms.)	Dose per 100 gms.	Results—days													
				1	2	3	4	5	6	7	8	9	10	11	12	13	14
Salvarsan B. B. V.	1	20	.04	D													
	2	16	.03	D													
	3	19	.02	D													
	4	16	.01	—	—	D											
Salvarsan B. F. D.	5	18	.04	D													
	6	16	.03	D													
	7	16	.02	D													
	8	18	.01	—	—												
Salvarsan L. H. U.	9	14	.04	—	—												
	10	14	.03	D													
	11	13	.02	D													
	12	21	.01	—	—												
Arsenobenzol No. 241	13	17	.04	D													
	14	16	.03	D													
	15	15	.02	—	—												
	16	16	.01	—	—												
Arsenobenzol No. 255	17	20	.04	D													
	18	13	.03	D													
	19	16	.02	—	—												
	20	16	.01	—	—												
Arsenobenzol No. 250	21	18	.04	D													
	22	16	.03	D													
	23	17	.02	D													
	24	18	.01	—	—												

# D — died.  
 — — survived.

TABLE 21. TOXICITY OF ARSENOBENZOL (DERMATOLOGICAL RESEARCH LABORATORIES) FOR MICE BY SUBCUTANEOUS INJECTION.

Product No.	Animal No.	Weight Grams.	Dose per 100 gms.	Results—days									
				1	2	3	4	5	6	7	8	9	10
No. 262	1	20	.04	D									
	2	20	.03	D									
	3	21	.02	—	—	—	—	—	—	—	—	—	—
	4	19	.01	—	—	—	—	—	—	—	—	—	—
	5	23	.008	—	—	—	—	—	—	—	—	—	—
No. 263	6	24	.04	—	—	—	—	D					
	7	20	.03	D									
	8	22	.02	—	—	—	—	—	—	—	—	—	—
	9	21	.01	—	—	—	—	—	—	—	—	—	—
	10	18	.008	—	—	—	—	—	—	—	—	—	—
No. 264	11	22	.04	D									
	12	20	.03	—	—	—	—	—	—	—	—	—	—
	13	14	.02	—	—	—	—	—	—	—	—	—	—
	14	19	.01	—	—	—	—	—	—	—	—	—	—
	15	23	.008	—	—	—	—	—	—	—	—	—	—
No. 265	16	23	.04	D									
	17	18	.03	D									
	18	15	.02	—	—	—	—	—	—	—	—	—	—
	19	22	.01	—	—	—	—	—	—	—	—	—	—
	20	20	.008	—	—	—	—	—	—	—	—	—	—

backwards and generalized muscular twitchings occur which are quickly followed by a terrific convulsion. This affects principally the two hind legs, which exhibit rapidly alternating flexion and extension. The animal often gives convulsive leaps and utters a shrill scream. The convulsions persist for twenty or thirty seconds, and are followed by rigor with extension of the hind legs, slow respiratory gasps and finally relaxation and death. In some cases the animal may recover, in which



event the rigor relaxes, followed by evidences of weakness and temporary paralysis of all four extremities, but particularly the hind legs. Such animals usually die within a few days. Occasionally an animal may exhibit convulsions after the administration of a huge dose, and recover and live for a number of days, but such animals usually fail to survive long.

REMARKS. It must not be inferred from what has been stated that dioxydiamino-arsenobenzol is a dangerous compound. We regard it, on the contrary, as quite a safe remedy. The reactions which result are annoying and distressing and may excite in the patient opposition to repeated injections, but serious or fatal results are relatively rare.

We have called attention elsewhere to experiments carried out by us which indicate that weight for weight this drug is 50 times less poisonous for the white rat than mercury. Considerably over a hundred fatalities from the use of mercury have been recorded in literature; if the facts were all known, this number would be increased many fold as these deaths are slow and insidious and not foudroyant like those following salvarsan; therefore they are not so readily proven to be due to the remedy administered. Wechselmann says (*loc. cit.*, p. 106), "My experience with more than 25,000 injections (of salvarsan) forces me to the inevitable conclusion that salvarsan is much less toxic than mercury." He also makes the statement that, "from 1580 to 1655 every teacher at Heidelberg had to take an oath that he would never use mercury." At the present day most syphilographers regard mercury as a valuable adjuvant in the treatment of syphilis, but regard salvarsan as the premier remedy.

#### VARIATIONS IN THERAPEUTIC EFFECT.

We believe that dioxydiamino-arsenobenzol may vary not only in oxidizability and in toxicity, but likewise within certain limits in therapeutic effect. If we admit variations in toxicity, it is only logical to recognize possible variations in therapeutic power, for this really means differences in toxicity for the parasite. That some degree of variation in the parasiticide power of dioxydiamino-arsenobenzol does occur is evidenced not only by differences occasionally noted in the dose necessary to cure experimental trypanosomiasis, but also by certain variations in clinical effect in syphilis. One hears from time to time of the failure of a chancre to disappear after three intravenous injections of the drug.

These occasional failures seem to occur with the products of different laboratories.

It is readily conceivable that slight variations in the drug or the presence of traces of certain impurities might exert a dystherapeutic effect.

There can be no question that considerable variation occurs in the toxicity of different lots of dioxydiamino-arsenobenzol. These variations are due to the presence of impurities which creep in, despite all precautions. These impurities, not having as yet been specifically recognized, cannot be detected by chemical analyses.

We believe that the toxicity tests with this drug should be carried out by intravenous injection inasmuch as this is the usual mode of administration in man. We are furthermore of the opinion that more valuable information as to toxicity can be obtained by this method. An experience with several hundred intravenous tests in rabbits with our own product convinces us that dioxydiamino-arsenobenzol, commercially prepared, can be borne in the dose of 60 mg. per kilo of body weight. Compounds which come up to this standard will induce few and relatively mild reactive symptoms in the human subject.

#### CONCLUSIONS.

1. Salvarsan may be used in concentrated solutions up to 0.6 gms. in 10 cc. *in animals*, without any evident increase of toxicity.\*
2. The failure to neutralize solutions of salvarsan with alkali leads to an increase in toxicity of fifty to sixty per cent. in solutions of  $\frac{1}{2}$  to 1 per cent. concentration.
3. The addition of a moderate excess of alkali beyond the amount required for neutralization does not increase the toxicity, as determinable by the duration of life of the experimental animal. It is possible, however, that it may have other untoward effects.
4. The use of sterile, fresh distilled water appears to possess ad-

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\* While the use of concentrated solutions does not give evidence of increased toxicity in animals, we have recently noted in the practice of some physicians, some serious reactions following the use of the drug given in a Luer syringe in concentrated form. By this method, particularly if the injection be given rather rapidly, the drug may be brought in too concentrated form in contact with the nerve centers. It may be quite possible to employ this method with impunity with certain lots of salvarsan or arsenobenzol, but with others severe reactions may result.

vantages over sterile, stale distilled or nondistilled water as regards toxicity, although the difference in our experiments was not pronounced.

5. Salvarsan in alkaline solution tends to undergo oxidation on standing, with consequent increased toxicity, but this substance and its congeners vary considerably in the rapidity of oxidation and in the degree of associated toxicity. The drug should be used reasonably promptly after preparation. If two or three hours' delay is unavoidable, the solution should be kept in a cylinder, full to the stopper, so that no air is present.

6. Several different types of reactive symptoms may occur after the use of salvarsan; (a) immediate; (b) early and (c) delayed. The immediate symptoms are due to a paresis of the blood vessels; the early symptoms coming on a few hours after the injections are febrile and gastrointestinal, and the delayed symptoms may be referable to the brain or the liver and gastrointestinal tract.

7. There is no one cause of reaction. The ætiologic factors in the production of reactive phenomena may be related to (a) the patient, (b) the technique, and (c) the medicament. We believe that the most important factor in the causation of reactions is referable to the drug. We believe that the immediate vasoparetic reactive symptoms are due to traces of an unidentified impurity in the drug, which we have for convenience termed *substance X*. We are confident that these symptoms are not due to "arsenoxide."

9. Salvarsan and its congeners are not compounds of absolute chemical purity. We cannot, therefore, expect absolute constancy in biological effects.

10. Salvarsan and its congeners may vary, within certain limits, in therapeutic effect, and to a greater degree in toxicity. The ampoules obtainable in the open market exhibit striking variations in toxicity.

11. Even the poorest compounds, however, are tolerated by animals in much higher amounts than the maximum dose administered to man, so that there is nearly always a latitude of safety.

12. We believe that the commercial products should be tested out intravenously as well as subcutaneously, and that they should be tolerated by rabbits in the dose of 60 mg. per kilo of body weight.

13. Salvarsan is a safer substance than mercury and can be tolerated intravenously by white rats in fifty times the dose of the latter, weight for weight.

## DISCUSSION.

DR. KOLMER thanked the Association for the invitation to discuss his paper with Dr. Schamberg and Dr. Raiziss, but Dr. Schamberg had presented the essentials of their research, and he thought the time better spent by hearing the discussion of members of the Association on the subject of the toxicity of salvarsan in general and on arsenobenzol in particular.

DR. RAIZISS said he was very much interested in one of the phases of this work, relative to the toxicity of the oxidized products, which showed much in contradiction to what had been most emphatically stated by Ehrlich and his co-workers. They maintained that alkaline salvarsan solutions exposed to the influence of the atmosphere underwent very rapid oxidation and became very toxic.

Their (the speakers') experiments showed that the solutions exposed to oxidation increased in toxicity, but to a much lesser degree than stated by Ehrlich.

According to Ehrlich, salvarsan was oxidized to the respective arsenoxyd compound which he found was twenty times more toxic than salvarsan. The speaker suspected that this latter compound had not been obtained in a very pure form; that was the reason why such great toxicity had been obtained. It was possible, in view of their experiments, that the oxidation products of salvarsan were not as toxic as was thought by Ehrlich.

Regarding as to how it was possible that a definite chemical compound prepared by different investigators would show a certain difference in its biological properties, the speaker said that this was in all probability due to differences in the purity of these preparations. Chemically pure compounds must show the same biological properties. Pure chemical compounds could be obtained by employing processes of fractional and repeated distillation and fractional and repeated crystallization. Unfortunately, salvarsan could not be obtained in a chemically pure form in the strict sense of the word. It was impossible to subject salvarsan to repeated crystallization or any analogous process, as this would possibly destroy the molecule or result in the oxidation of the product.

Salvarsan was obtained usually with a small amount of impurities. However, these impurities were apparently very toxic substances. According to the amount of impurities in salvarsan the toxicity was increased or decreased. The biological test of impurities was more sensitive than the chemical test.

DR. WILE said that in tendering a resolution to Dr. Schamberg and his co-workers, the members must now feel that they had really underestimated their debt and had failed to express their gratitude sufficiently. The speaker said that after all, the proof as to the efficacy and non-toxicity of the product must be carried out on patients, and it was a great pleasure to attest that after some five or six hundred injections of arsenobenzol he could say, without hesitancy, that the drug was fully as little, or even less toxic in the human being, than the older product. As to its efficacy, with regard to the immediate effect on syphilitic lesions, he said it was fully as efficient, and in passing might add that they had used three products at a single time. They used arsenobenzol from the Dermatological Research Laboratory, old salvarsan, of which they had a quantity, and the Canadian product, diarsenol; in the last-named they very soon discovered greater toxicity, and had therefore given it up.

The speaker said he did not know whether Dr. Schamberg was still further interested in the relative toxicity of the old salvarsan. If so, the speaker said he still had a few tubes of the old salvarsan, which he should be very glad to exchange with Dr. Schamberg for arsenobenzol. Sixty injections, using doses of .0001/3 gm. to .0001/2 gm. of arsenobenzol, had been well tolerated and with as good a therapeutic effect as like doses of salvarsan. The speaker said they had been treated to a very instructive paper, which showed the ability of the American chemist to synthesize a drug fully as well as their German colleagues.



DR. BRAYTON said that as one of the first members of this Society to emphasize the custom and safety in his practice and clinic of using the concentrated solutions of salvarsan and neosalvarsan, he wished to add his testimony to that portion of Dr. Schamberg's paper devoted to concentrated solutions.

In the Indianapolis City Dispensary, it had been the custom since salvarsan was first introduced, to give both salvarsan and neosalvarsan, and later the arsenobenzol made by Dr. Schamberg, in from ten to thirty cc. of water, directly into the veins, using an ordinary glass syringe. No evil results had occurred in any case. Such was the present custom in this clinic, where upwards of 3,000 injections were made each year. Only four injections were given intramuscularly. In no case had it been necessary to cut down the vein. Such had been constantly their teaching and practice, in a skin and syphilis clinic held three hundred times a year, the patients coming from a population of 265,000, of whom 35,000 were colored. One-half of the work and time of the clinic was devoted to syphilis. The aim of the clinic was to have all primary and early secondary cases treated with four or five doses of salvarsan, followed by weekly doses of salicylate of mercury, grain one to one and a half, once each week, in the gluteal muscles. The mercurial treatment was continued from two to three years, as was shown to be necessary by the clinical symptoms and serological findings. Nine injections of the salicylate were given in nine weeks; a rest period was then given of four weeks. Four series of thirteen weeks completed the year, for adults.

DR. FORBYCE said he wanted to express his appreciation of the valuable work of Dr. Schamberg and to say that at the Vanderbilt Clinic he had used in the neighborhood of five hundred ampoules of arsenobenzol without noticeable reactions and with very excellent therapeutic effects.

DR. RAVOGLI said he wished to congratulate Dr. Schamberg for his painstaking work and for the beautiful details he had given them. He had used a great deal of salvarsan and neosalvarsan—about one thousand injections—and he had always been afraid, since the reports of death in consequence of the injections of salvarsan. Some two years ago cases of death from this drug amounted to one hundred and seventy-seven. It was difficult, the speaker said, to explain the question of death, whether it was to be attributed to the injection of air into the veins, or if the solution had been too much acid to coagulate the blood.

The speaker said that whenever he gave an injection he was exceedingly careful, always having litmus paper, red and blue, upon the table. He never gave an injection unless it was perfectly neutral or very slightly alkaline. He had always been afraid, since they could not have any more salvarsan, to use anything else in the veins. When the speaker received a letter from Dr. Schamberg, stating that he could supply arsenobenzol, he began to use it right away. The two first injections were used in the City Hospital, in two women affected with severe papular syphilides, and after receiving this injection the eruption disappeared in a short time. Dr. Ravogli said that the only objectionable thing he found in the arsenobenzol was that sometimes it precipitated a kind of gummy substance. The solution was made in boiling, distilled water. The drug was dissolved right away, but sometimes little blebs of powder remained which were difficult to break up. This was tested with the litmus paper, and he then added eight or ten drops of sodium hydroxide, which formed a kind of creamy precipitation, and then he increased the water and the alkaline solution until a clear solution was obtained. When the solution began to clear he found that at the bottom was a kind of gummy-like precipitate, which could not be dissolved. He would like to know if that substance was salvarsan which could not be dissolved, or whether it was only a part of the components of the diaminoarsenobenzol which was of no therapeutic value.

DR. ZEISLER said that with all admiration for Dr. Schamberg's work, he would like to express the hope, that with the excellent facilities Dr. Schamberg had, he would give them a preparation parallel to neosalvarsan, which, while somewhat inferior in efficiency and value, made the work in private practice so much more easy, on account of the ready solubility and ease of administration.

DR. BIDDLE asked Dr. Schamberg if there was any objection to adding a small amount of the normal saline solution, which the speaker did in some of his cases. He understood that the toxicity might vary with the amount of solution. In private work a much larger dilution than Dr. Schamberg advocated, was used. No increase in toxicity was ever noticed.

DR. HAZEN said he would like to express his appreciation of this beautiful work. He wanted to ask Dr. Schamberg if the temperature of the water, in which the salvarsan was dissolved, in any way influenced its toxicity.

DR. POLLITZER said he would like to add his testimony as to the value of Dr. Schamberg's preparation. He and his assistants had used approximately four hundred doses up to the present time. The speaker could testify to the remarkable absence of toxic symptoms following its use. He was not prepared to assert that it was less toxic than the old salvarsan, but it certainly was not more toxic, and it seemed to him that the minor disturbances, with which we were all familiar, occurred somewhat less frequently than with the old preparation. The speaker had had no really bad effects whatever. One case under treatment for a number of years past had a susceptibility to arsenic; the man got an arsenic dermatosis every time he had received an injection of salvarsan and the Schamberg preparation had acted in the same way. The difficulty of solution, the relative insolubility of the drug, had been overcome; the last lot of arsenobenzol received from Dr. Schamberg had dissolved quite as readily as the Ehrlich preparation. He hoped that Dr. Schamberg would tell them on what physical property the difference in solubility depended.

The speaker said he wished to recommend the method of preparing the solution which he employed and which seemed to him to have some advantages. He put about 50 cc. of sterile, distilled water in a beaker, four or five inches in diameter. This was placed over a Bunsen burner and raised to the boiling point. When it started to boil he whirled the beaker around rapidly, so as to impart a rotary motion to the water. He then sprinkled the salvarsan on the moving water as evenly as possible. The old salvarsan would go into solution almost like sodium chloride in water. The salvarsan which Dr. Schamberg had supplied did not dissolve quite so readily and furthermore clumps were apt to form. The speaker did not hesitate to put the beaker back on the Bunsen burner and boil it up again for a minute. It might take perhaps five minutes to get a solution, or longer if there were any considerable number of large clumps formed, for a gelatinous coating surrounded them and they were then very hard to dissolve. It was a good plan to break up these clumps with a sterile glass rod. Other than this there had been no trouble and none at all with the latest supply of the drug. He added cold or tepid distilled water up to the required extent and never used saline. He used one decigram of arsenobenzol to twenty cubic centimeters of water; five decigrams to one hundred cubic centimeters. Unfortunately he had not heard the paper read by Dr. Schamberg, but Dr. Pollitzer said he simply wanted to add his testimony to the value of what had been achieved by Dr. Schamberg and his colleagues and express the sense of obligation which all felt was due for their services in supplying this drug of inestimable value during these days of world-stress.

DR. GILCHRIST said that the wonderful thing about the discovery of salvarsan had been that it was the greatest advertisement the world has ever seen, that syphilis could be cured, which did more good in that direction than did the efficiency of the drug. In the hospital, as they all knew, the speaker said, patients

with syphilis appeared in the genito-urinary department first, were then sent to the skin department, then to the eye department, next to the neurological department, where they were finished up; hence there should be some centralization of treatment. In the Johns Hopkins Hospital the cases were now sent to one department and treated only in that department, and not turned over to the other departments. The cases were followed along in a social way, so that they insisted on curing a patient against his will. In looking back, in private practice, as well as hospital experience, when the patient got rid of his trouble, and in two months felt so good that he stated he never felt better in his life, they had to fight with that patient to continue treatment. The speaker thought this advertising of the thing all over the world added a great deal in curing the disease.

The third point, Dr. Gilchrist said he wanted to speak about, was the question that for a great many years mercury had cured syphilis and he wanted to know if they could trust salvarsan enough to cure syphilis by salvarsan alone, or was mercury to go on curing these cases. It was very curious why they did not trust salvarsan alone and the speaker would like this question answered. He said he must tell students why salvarsan was now used, if they could still cure cases with mercury. If they looked up their private cases, the speaker said, they would find a lot they had cured with mercury. Now, in the early stages, he said, he wanted to know why and when was it necessary to use salvarsan.

Dr. MacKee said that the experiments that had been conducted by Dr. Schamberg were interesting and reassuring. Those relating to toxicity were of the utmost importance, especially in regard to the water used, the size of the dose, the different preparations of salvarsan, etc. It was very courageous of Dr. Schamberg to say that most of the toxic effects were from impurities in the drug, and it was reassuring to know that he was investigating this factor, and had made considerable improvement in this respect.

Dr. Schamberg had employed salvarsan in acid solution experimentally in the toxicity experiments. Several years ago the speaker desired to ascertain if it would be safe to administer the drug in acid solution. Some experiments were made on dogs, which showed that the acid solution was perfectly safe if not concentrated, but when it was dissolved in a small quantity, the drug precipitated in the blood in large masses and was not redissolved in time to prevent death by blocking the heart. The acid solution was also given to human beings, and it was difficult to compare the reactions for they were so common with every technique at that time.

In regard to the clinical and serological results of Dr. Schamberg's preparation, the speaker said that seven hundred or eight hundred doses of the drug had been used in Dr. Fordyce's clinic, both intravenously and intraspinally. There had not been a single skin reaction, such as an erythema, the day following the injection. Nor had there been any immediate reactions such as facial oedema, etc. The clinical and serological results appeared to be the same as with the German product. It seemed a pity, the speaker said, that nothing could be done to reduce the price of the German salvarsan for hospital and dispensary use. In fact, now that thirty or even forty or more doses of salvarsan were administered to syphilitics in the late stage, the expense was a severe burden on all but the wealthy.

Dr. Huxt said he would like to ask, in regard to the question of toxicity, whether the effect of shaking the solution in the air or pouring it from one vessel into another had been tried. The effect of this might be similar to that seen in experiments with methylene blue; if methylene blue was reduced to a colorless compound with glucose and the solution allowed to stand in a cylinder, only the surface became blue even after some hours, but the entire solution became blue almost instantaneously if it was poured from one vessel to another



or was shaken with air. Experiments with neosalvarsan, made in Ehrlich's laboratory, had shown that the toxicity of this substance increased fourfold by such simple manipulation.

The speaker said that the test doses used in the experiments reported by Dr. Schamberg seemed to be ample to safeguard the product and to meet all practical requirements, but he thought that there might still have been some increase in the absolute toxicity of the solutions, especially if they were shaken.

DR. McDONNELL said he would like to know if there had been any legal difficulties to overcome in presenting this drug to the profession. Several doctors in the speaker's neighborhood had intimated they were afraid of using anything that was like salvarsan, because of some imaginary protection given by the law to salvarsan.

DR. SCHAMBERG, in reply to Dr. Ravogli's query, stated that he could see no advantage in employing salt solution as a solvent for salvarsan. (For brevity he used the German trade name as a designation for the various dioxydiamino arsenobenzol products.) Salt solution had the disadvantage, if improperly used or if the sodium chloride were not chemically pure, of interfering with the solubility of the drug. As a matter of technique, in preparing arsenobenzol solutions, it was advisable to inspect the powder in the ampoule, and to observe whether it flowed readily and was not inclined to clump together in lumps. In the final preparation of salvarsan the drug was washed with ether, and if traces of ether were present, the powder was not perfectly dry. If lumps were present they should be broken up with a sterile wire or glass rod. If this was not done, then lumps of arsenobenzol were dropped into the water in the mixing jar, the external surface was gelatinized and to all appearances a capsule was formed with the dry powder in the centre. This, of course, greatly interfered with the solution of the drug. Even when this took place, this mass could be dissolved by standing the mixing jar in a small basin of hot water and heating the same over a Bunsen burner; this degree of heating would not lead to oxidation of the drug.

In regard to the temperature of water employed for injection, Dr. Schamberg recommended that it be practically that of the body temperature. He stated he had received an intimation from the Vanderbilt Clinic of New York that the workers there had an impression that water injected at a lower degree than body temperature was inclined to be attended with less reaction; this was a matter to be determined by further observation.

Regarding the questions of Dr. Hunt, Dr. Schamberg said that even with fresh solutions of arsenobenzol the maximum amount tolerated by rats was about 100 mg. per kilo of body weight. Rabbits tolerated considerably less than this amount, from 60 to 70, or at the most 80 mg. per kilo. Dr. Schamberg and his associates appreciated the fact that arsenobenzol, on exposure to air, increased in toxicity as a result of oxidation and that this oxidation was attended by a deepening in the color of the solution and a cloudy deposit, and ultimately this change proceeded to a point of developing a black precipitate. The speaker remarked that a greatly oxidized product was obviously more toxic than a fresh solution of the drug, but he believed that the facility with which the drug underwent oxidation and the increased degree of toxicity resulting therefrom had been overstated by their German colleagues. It will be recalled that in the beginning Ehrlich cautioned even against vigorous shaking of salvarsan in the mixing jar. Dr. Schamberg said that he and his associates had demonstrated that there was no material increase in toxicity in a solution of arsenobenzol standing for twenty-four hours, provided that the solution filled the mixing jar to the glass stopper and provided there was no color change; in one instance, a solution standing nine days filled to the glass stopper had been employed on animals with no evidence of increase of toxicity. The speaker



and his associates wished to emphasize the fact that the results of these experiments were not to be taken as a guide in the treatment of patients with salvarsan. They had been loath to publish their findings, for fear that careless practitioners might, in the interests of economy, use spoiled solutions on their patients with resultant serious damage. It was felt, however, that with this warning the laboratory results should be published in the interests of throwing the fullest light on the nature of the changes that occurred in solutions of salvarsan.

As regards the legal complications that might arise from the marketing of arsenobenzol, Dr. Schamberg stated that he was not disturbed about these. When salvarsan could be procured in the United States in sufficient quantity, he and his associates would cease marketing arsenobenzol. He believed that the Dermatological Research Laboratories had been helpful in furnishing a life-saving and health conserving medicament to the medical profession, during a period when salvarsan could not be obtained. When the necessity of supplying this drug no longer existed, he and his associates would continue their research work in chemo-therapy.

Dr. Schamberg stated that salvarsan had a much greater affinity for the protoplasm of spirochætæ than any other drug, and it was the most valuable and most specific remedy that we possessed in the treatment of syphilis. In answer to the question, "Why do most medical men not rely exclusively on salvarsan, and use mercury in conjunction?" Dr. Schamberg observed that the answer was a simple one. There was no question in his mind that patients could be cured with salvarsan alone, provided they received it in adequate quantity and for a sufficiently protracted period. In the beginning, the belief had gone forth that one or two injections of salvarsan sufficed to effect a cure. The patient received a few injections, ceased treatment, and later had relapsing manifestations. One could not go on indefinitely giving patients weekly injections of salvarsan. Such injections may cause physical discomfort and they disturbed the patient's routine of life. Physicians gladly availed themselves of a valuable adjuvant—mercury—not because it was therapeutically indispensable, but because the treatment could be better carried out by the joint use of the two remedies. Mercury had been used for over four hundred years and it unquestionably exerted a healing influence upon the lesions of syphilis, but it was less spirochætotropic than salvarsan, and on the other hand, in massive doses, it was more toxic. He agreed with Dr. Pollitzer that not enough salvarsan was given to most patients.

## GRANULOMA PYOGENICUM AND HIGH BLOOD PRESSURE.\*

BY DOUGLASS W. MONTGOMERY, M.D. AND GEORGE D. CULVER, M.D.,  
SAN FRANCISCO.

In a few instances of granuloma pyogenicum this interesting association of high blood pressure has been found by us,—in fact it has been present in three of the five cases we have seen. The association is interesting because it would seem reasonable to suppose that there might be an ætiological connection between the two phenomena.

Granuloma pyogenicum is nothing more than a globular mass of circumscribed granulation tissue and it would therefore appear unworthy of consideration as a separate disease entity. The condition, however, forms such a striking clinical picture with such regular symptoms, and its pathological anatomy has been so well worked out and is so helpful in a comprehension of the steps to be taken in treatment, that its segregation from other examples of exuberant granulations is not alone justifiable but commendable.

Furthermore, the red, granular, easily bleeding tumor simulates so forcibly what one is accustomed to regard as a malignant growth and the condition in reality is so benign, and its recognition as an innocent tumor becomes so easy and so definite when its pathology and symptoms are remembered, that these facts alone make its separate consideration most advantageous.

The instances of granuloma pyogenicum that have come to our attention are five in number, and in their order of sequence were:

CASE 1. Mrs. C. F. D., 27 years old, consulted us for a lobulated growth on the ulnar side of the left thumb, which was as large as the thumb end. It had been steadily growing for three months. It was attached by a small pedicle, which could be determined only by carefully raising the tumor from the skin surface, which it hugged closely around the pedicle.

The history given was of marked interest from an ætiological standpoint. The patient, an intelligent woman, stated that there was a small red spot under the skin which had been present a long time, and which she picked with a needle about three months before seeking advice. It bled freely and frequently, and was difficult to stanch and after each hæmorrhage the tumor became larger.

Two large lobules were removed with scissors and without any pain whatever. There was a third smaller lobule, which had been covered by one of

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\*Read before the San Francisco County Medical Society, Nov. 7, 1916.

thé larger as a cap. Some pain was experienced when this was clipped off. On its removal a freely bleeding artery end of considerable size was exposed and suturing was required to arrest the hæmorrhage. The wound healed perfectly by first intention.

The blood pressure of this patient was not taken, but there was no reason to suppose it was above normal.

CASE 2. Mrs. E. W., 65 years old, consulted us for a granuloma pyogenicum of the red of the lower lip, that had begun after convalescing from pneumonia three years previously. She said it had at one time partially disappeared under X-ray exposures, but soon relapsed. Late in the fourth year, frequent bleeding had occurred. The patient's face flushed readily, the pulse was irregularly intermittent, and she had a feeling of constant pressure in the head. Her blood pressure was 156 Faught.

The granuloma and its base were curetted, compression was made over the lip to stop the stubborn bleeding, and trichloroacetic acid was applied. Healing was excellent in a short time.

Under regulation of her diet the patient, a fleshy woman, was reduced in weight, her general condition was improved and the high blood pressure fell to normal. Six months later she again came in, having regained the lost weight with a reappearance of the high blood pressure symptoms, frequent epistaxis, and what was of the greatest interest, a recurrence of the bleeding lower lip, with a beginning granulomatous growth. The blood pressure was 160 Faught. She was again treated as when she first came in, with the same successful outcome. The second granuloma pyogenicum is regarded by us as being a new lesion, and not a recurrence of the old one.

CASE 3. Mr. G. C. S., a lawyer, 56 years old, consulted us July 26th, 1916, on account of a pea-sized, red, pedunculated tumor situated on the radial side of the terminal phalanx of the left middle finger. It bled profusely on the slightest occasion.

The patient said that, shortly before, he had noticed a dark spot in this situation, that he pricked with a pin or the point of his knife, he did not know which. It bled profusely then, and commenced to grow, and was, as above mentioned, subject to frequent hæmorrhages.

We took his blood pressure, which was 198 Faught., and which gradually, through management, decreased to 178.

The tumor was enucleated with a bone curette, and cauterized with trichloroacetic acid. Healing was uneventful and permanent.

CASE 4. Mrs. F. T. C., 53 years of age, consulted us for a tumor on the gum, from which the right lower, anterior molar had been removed several years before. The tumor was a fairly prominent spongy mass of red color, as large as a medium sized pea, which projected up between the teeth. It had a constricted base. When clipped off with scissors, level with the mucous membrane, a persistent bleeder was exposed. It required firm pressure with a silver nitrate stick to stop the bleeding. The wound healed without incident.

The patient's blood pressure was not taken, and we have no reason to suppose it was above normal. It was later, while thinking over the circumstances of the case of the woman, who had a coincident recurrence of the high blood pressure symptoms and the bleeding of the lip, that it was remembered that the man with the granuloma on the finger also had a high blood pressure. This suggested a possible connection between the two conditions. As soon, therefore, as another patient happened along, the opportunity was not neglected to take an observation.

CASE 5. Mrs. G. V., 54 years old, consulted us for a large pea-sized, blood red, spongy tumor on the right cheek. It started as a pin-head sized, red spot, which, when wounded, bled freely and the bleeding was stopped with difficulty. It was curetted, and at its base, which was constricted, there was a

persistent bleeder. Pressure and tension at the sides held the bleeding in check, and trichloracetic acid destroyed the papillary capillaries and arterioles. Healing was without incident. This patient's blood pressure was 220 with the Faught instrument.

We had now histories of five patients, in three of whom there was a high blood pressure. It must also be taken into account that the reaction of the skin in high blood pressure varies decidedly in different individuals. In some, the skin is much more markedly suffused than in others with an equally high pressure. This was true of the woman with the two attacks of granuloma pyogenicum of the lip, whose blood pressure was only 156 to 160, but, who, under the circumstances, suffered decidedly from high blood pressure symptoms, such as vertigo, and whose face became a deep red, much redder than the woman with a pressure of 220, who suffered from a granuloma pyogenicum of the cheek.

Granuloma pyogenicum has been repeatedly attributed to definite microorganisms, as for instance, botryomyces, or to a special strain of *Staphylococcus aureus*, or to streptococci. The botryomyces has long ago been excluded from this connection, and it is probable that the other two are only accidental or rather incidental parasites, as both are usually present on the skin and would find fine feeding on a raw granular surface.

In considering the ætiology of granuloma pyogenicum, one must always remember that histologically the tumor has repeatedly been demonstrated to be nothing more than granulation tissue, particularly rich in capillary blood vessels, and that, therefore, anything that may give rise to exuberant granulation tissue may cause it. In fact the dominating feature in the ætiology, pathology and treatment, is the blood vessel that feeds the cavernous tumor through the slender pedicle or stem. It is probable that in some cases a blood vessel dilates as a preliminary to some injury that causes the formation of exuberant granulations, eventuating in the pediculated tumor. This would be the explanation of the first case we report, in which the patient said that a small red spot existed for a long time under the skin. It was after she picked this with a needle that the growth appeared. In all probability this red spot was the knuckle of a papillary blood vessel.

In CASES 3 and 5, also, a dark and a red spot respectively, which may have been enlarged capillaries, were noticed some time before they were pricked with a pin and caused to bleed.



Another interesting clinical feature in connection with the question of dilating blood vessels is the fact that these growths only occur where there is a well developed papillary layer, as on the skin and on the mucous membrane of the mouth. Lenormant, in a collection of one hundred and twenty-six cases, found one hundred and seven of them to be situated on the skin, and nineteen on the buccal mucous membranes<sup>1</sup>. If this close connection between the blood vessels and the formation of this tumor is correct, any increase in the pressure in the blood vessels would favor the extrusion outward of this growth. Increased blood pressure would, therefore, not be an obligatory accompaniment of this condition, but would be a favoring one.

It would also be quite consistent with what is known of growing blood vessels, that the blood clot itself may constitute a feature in the formation of the tumor. For instance, a minute hæmorrhage takes place as the result of a slight traumatism and a blood clot forms over it. This blood clot, instead of drying down in its entirety into a scab, may become, in part, organised and so form the starting point of exuberant or projecting granulation tissue, with a central mass of dilated blood vessels. Because of the tendency to bleed, this process may continue to be repeated. This manner of growth would reasonably account for the lobulation observed in CASE I; it would also explain such cases as that of Lenormant, in which the lesion begins as a little crust that grows steadily<sup>2</sup>.

The probable reason for the formation of the pedicle is an interesting feature.

As the little mass of exuberant granulations projects out above the level of the skin, the epithelial layers make an effort to close in, so as to cover the solution of continuity, with the result that they constrict the base of the projecting granulations. In this effort to close in, the upper layer of the epithelium becomes thickened into a ring or curb, a phenomenon that has frequently been noticed. The enlarged blood vessels of the projecting nub of granulations demand an abundant supply of blood, and so give rise to the comparatively large spurting blood vessel in the constricted base or pedicle. The top of the projecting nub becomes eroded because it is not covered

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<sup>1</sup> LENORMANT. La pretendue botryomycose humaine. *Ann. de dermat. et de Syph.*, April, 1910, p. 168.

<sup>2</sup> *Loc. cit.*

by protecting epithelium, because it projects and is exposed to injuries and also because it juts away from the nutritional vessels of the skin. The bleeding is therefore explained by this erosion, and by the proximity to the surface of the large, thin-walled blood vessels running in all directions through the granulation tissue.

The symptoms are therefore a globular, red, easily bleeding tumor, the size of a pinhead, a pea or a hazel nut, with an eroded top or a top capped by a blood crust. It is seated on the flat surface of the skin or mucous membrane, or in a cup-shaped depression, and it is either constricted at the base or has a well marked pedicle. This feature may have to be demonstrated by running a probe around it.

Lenormant says that these tumors are always nude, that they never have a covering of epithelium. We have no doubt, however, that in some rare instances the granulation tissue, instead of projecting up through a hole in the epithelium, will push the epithelium up ahead of it, and so give rise to such a condition as pictured by Wile, in which on microscopical examination, a necrotic, badly formed epithelial covering was found.<sup>3</sup>

The treatment consists of ablation, and the obliteration of the supplying blood vessel. In some cases this is best done by cutting out a lozenge-shaped piece of skin, including the base of the pedicle. In other cases the cut stump may be curetted and then deeply cauterized. In any case the object is to attack the blood vessel of supply below the point where it is affected.

The nomenclature of this condition is important, as otherwise much of the literature and even a mutual comprehension in conversation of the condition may escape one. Some of the names also have the merit of drawing attention to prominent symptoms or pathological conditions.

The first names, botryomycosis<sup>4</sup> and botryomycoma<sup>5</sup>, rested on an ætiological error, which is now corrected. Frederic's designation, granuloma pediculatum benignum,<sup>6</sup> is excellent as drawing attention to the constant and characteristic constriction at the base of the tumor, and also to its benign nature. Staphylococcosis cutis<sup>7</sup> is

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<sup>3</sup> WILE, UDO. *Jour. Cutan. Dis.*, 1910, p. 663.

<sup>4</sup> PONCET ET DOR, *Lyon med.*, 1897, 1898.

<sup>5</sup> DERMATOLOGIE VON J. DARIER. German translation, 1913, p. 498.

<sup>6</sup> FREDERIC. *Deutsch. med. Wchnschr.* 1904, Quoted by Krzysztalowicz, *Monatsch. f. prakt. Dermat.*, June 15, 1907.

<sup>7</sup> GALLI-VALERIO. *Arch. d. Parasit.*, 1899, Cited by Krzysztalowicz, *Loc. cit.*

not nearly so good, because it only represents what is probably an incidental infection, and also lacks individuality. Granuloma teleangiectaticum pediculatum is unweildy, and besides, the word teleangiectasis is so associated with nævus as to be somewhat misleading. Undoubtedly the favorite name now is the one employed in the title of the present article, granuloma pyogenicum. It was first proposed by Hartzell<sup>8</sup>. It is short, individual, and not unpleasant in sound. The attribute "pyogenicum" indicates that the lesion is raw and pus producing, without designating any particular pus organism.

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## ÉRYTHRODERMIE CONGÉNITALE ICHTHYOSIFORME.\*

REPORT OF CASES WITH A DISCUSSION OF THE CLINICAL AND HISTOLOGICAL FEATURES AND A REVIEW OF THE LITERATURE.

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(Continued from page 251.)

### REVIEW OF THE LITERATURE.

At the beginning of this communication we gave a brief synopsis of the condition known as *érythrodermie congénitale ichthyosiforme*, or, as it will probably be designated in English, ichthyosiform erythroderma. This was followed by a clinical and histological report of the cases that are the foundation and incentive for this study. Before entering into an analysis and discussion of the subject, we desire to present a review of the literature. The review contains nearly all the cases in the literature that have been reported under the name of

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<sup>8</sup> HARTZELL. *Jour. Cutan. Dis.*, 1904, p. 520.

\*Read in abstract before the Section on Dermatology at the 15th Annual Meeting of the American Medical Association, Detroit, June 25, 1916. Also before the Clinical Society of the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University, May 10, 1916.

ichthyosiform erythroderma, most of the cases that have been reported under other titles but which were later recognized as ichthyosiform erythroderma, and many disputed cases and transitional types. Not only are the cases reported in detail, but the authors' opinions are also given. It seemed wise to do this so that the subsequent discussion and analysis might be made more readable by avoiding constant interruptions for the purpose of inserting quotations. And also because we believe that a complete review of this kind will prove of value to the student of ichthyosiform erythroderma and allied conditions and will be useful to future writers on this subject.

BROCQ, L. *Erythrodémie congénitale ichthyosiforme avec hyperépidermotrophie.* *Ann. de dermat. et de syph.*, 1902, iii, p. 1.

J. R.; male; age, 3 years. Family history, negative. There was a generalized redness and numerous bullæ were present at birth. The skin later became thickened, desquamative and attacks of bullæ, both full and flaccid, were common. The hair and nails grew very rapidly. When examined by Brocq the skin over most of the body was thickened and covered with blackish scales. Wherever the scales were not numerous the skin was red. The plantar surfaces were normal. The dorsal surfaces of the feet were especially thick and black. The legs and arms were affected on all surfaces. The popliteal spaces were rose-red and thickened as, also, were the flexures of the elbows and the axillæ. The chest and abdomen were covered with furfuraceous scales while on the flanks and the neck the horny layer was very thick and blackish. The scalp was covered with a blackish, seborrhœic crust. With the exception of hyperidrosis the face was normal. The nails were curved and longitudinally ridged. The general health was good. There were no subjective symptoms.

The author reported a second case under the title of *érythrodémie congénitale ichthyosiforme avec hyperépidermotrophie sans complications de bulles*. Vidal had previously reported the case as one of *pityriasis pilaire de Dévergie*. Boy, 10 years of age. Family history, negative. The disease probably began at or shortly after birth. There was a marked thickening and desquamation of the horny layer over most of the body. The skin of the palms and soles desquamated in large plaques. There was a dry seborrhœa of the scalp and face. The hair and nails grew very rapidly. On the neck, the margins of the axillæ and the flexures of the arms, the thickened horny layer presented a papillary appearance and here there was considerable redness. The forearms and hands presented a thickened and red epidermis. The palms and soles were red and the skin peeled off in large, thin pieces. There was an excess of hair on the abdomen, chest, neck, arms and hands. The axillary and inguinal glands were slightly enlarged. The general health was good. In addition to the above description, which was given by Vidal, Brocq called attention to a generalized erythroderma.

BESNIER AND DOYON. *Leçons de Kaposi*, Paris, 2nd ed., 1891, ii. p. 836. Quoted in full by Brocq (*loc. cit.*).

A boy, 11 years of age. Family history negative. A few flaccid bullæ were present at birth which soon disappeared. There was a bullous eruption at the fourth and the sixth month and nearly every summer thereafter—never in the winter. The skin was desquamative, however, all of the time. The bullæ occurred mostly on the hands and feet but also on the trunk and each attack was accompanied by fever.



When examined by Besnier and Doyon most of the body was covered with thick, blackish scales. There was considerable desquamation. The general aspect was that of ichthyosis. The entire body was affected, even the face and scalp. There were no subjective symptoms and the general health was good. Bullæ continued to develop every summer, although the attacks became less frequent and severe. There was only one outbreak in winter which followed an attack of influenza. The patient was last seen by Besnier and Doyon when he was 11 years of age.

The case was then followed by Brocq, who adds the following: He saw the boy when the latter was 9 years of age. At that time there was a generalized redness, especially of the neck, the lower thorax, the buttocks and the extremities. Over this erythroderma there was a fine scaliness. The back of the neck and the axillary fold presented a very thick, horny layer. There was a plantar and palmar hyperkeratosis which simulated an arsenical keratosis. There were very few bullæ each spring. The disease was apparently changing to the dry type and was gradually improving. The general health was good. Brocq saw the patient for the last time when the latter was 22 years of age. At that time the generalized redness was changing to a brown, which might have been due to arsenic which had been taken over a long period.

NIKOLSKY, P. Contribution à l'étude des anomalies congénitales de keratinisation. *Compt. rend. du xii Congr. internat. de méd.* Quoted in full by Brocq (*loc. cit.*).

Girl, 6 years of age. Family history, negative. At birth the skin was rough and dry and there were a few bullæ on the buttocks. There were several congenital defects, such as one ear being larger than the other. The general health was good. There was a slight desquamation on the scalp and face and the skin of the face was thickened. On the trunk and limbs the horny layer was very thick. Callosities were noted on the palms and soles. Bullæ were present on the abdomen and lower extremities. There were several extensive reddish areas on the neck, thorax and abdomen and wherever the scales were removed the underlying skin was erythematous. The horny layer presented a papillary appearance. This was especially marked at the margins of the axillæ and the folds of the elbows. There was seldom any fever. The bullæ dried in 36 hours. The blood and urine were normal.

Histologically, the entire epidermis was thickened—acanthosis. There were wide spaces filled with debris and containing granules of keratohyaline in the rete. These spaces produced a reticulated appearance. There was considerable degeneration of the prickle cells. The horny layer was very thick and contained spaces filled with leucocytes. The basal layer was composed of two or three widely separated layers of cells. These cells were poorly supplied with protoplasm and contained a large nucleus and several nucleoli. Mitoses were observed. The papillæ were enlarged. There were numerous blood vessels with swollen endothelium and a perivascular infiltration of small round cells in the papillary body. The adnexa were normal as, also, was the elastic tissue excepting in the areas of infiltration and immediately under the epidermis, where it was absent. The author emphasizes the fact that multiplication of cells was noted only in the lowermost portion of the epidermis. The rest of the rete showed anomalies of keratinisation—precocious keratinisation. The cells lost their protoplasm and many of them underwent disorganization. As a result of the histological picture the author suggested the name of acanthokeratolysis universalis congenita. He considered the condition to be a trophoneurosis. Clinically, he was of the opinion that the disease resembled ichthyosis congenita, but his histological findings had never been observed in the latter affection.

THIBIÈRE, GEORGE. Note sur les rapports de l'ichthyose fœtale et de l'ichthyose vulgaire, à propos de deux sujets atteints d'ichthyose fœtale et agés, l'un de dix-huit ans, l'autre de quinze ans. *Bull. et mém. Soc. méd. d. hop.*, 1898, p. 539. (Quoted in full by Brocq, *loc. cit.*)

Boy, 18 years of age. The skin of the trunk, especially the lower abdomen, looked like that of a crocodile. The back was covered with thick squames which were easily removed. On the thorax, the axillary folds, the bends of the elbows and the popliteal spaces the horny layer was thick and of a blackish color. The extremities were scaly. The skin of the palms was thickened, resembling keratoderma. The face was scaly and there was a bilateral ectropion. The child was born at 7½ months and was below normal mentally. The skin was abnormal at birth. The family history shows that the mother had psoriasis, and had had several miscarriages and one malformed infant. The father gave an indefinite history of syphilis.

The author reports a second case in a boy, 15 years of age. The symptoms were identical with those of the first case, although a little less severe. The child was born at term with a scaly skin. There were several anatomical defects including undescended testicles. The father was probably a syphilitic.

Brocq, who also examined these patients, noted a generalized erythroderma, especially marked on the neck, articular folds and buttocks. He called attention, also, to a seborrhœa of the scalp, long, curved nails and also to the fact that both the hair and nails grew very rapidly.

The reports so far reviewed were contained in Brocq's 1902 article.

Brocq mentions the following cases that he found in the literature and which might be examples of ichthyosiform erythroderma: Hallopeau and Jeanselme's case\*—*ichthyose avec hypotrophie simulant une sclérodermie*; Hallopeau and Watelet's case\*—*forme atténuée de la maladie dite ichthyose fœtale*; Sangster's case\*—*congenital exfoliation of the skin (keratolysis exfoliativa)*, *Brit. Jour. Dermat.*, 1895, p. 37; Fournier's case mentioned in the discussion following Brocq's report at the Dermatological Congress of 1900—the bullous type occurring in the heredo-syphilitic; Kaposi's case of ichthyosis (*Wien. klin. Wchnschr.* 1895, p. 387); Lang, *Ichthyosis avec rétraction de la peau* (*Tr. Congr. méd. de Strasbourg*, September, 1885); Caspary\* (*Ann. de dermat. et de syph.*, 1887, p. 423). Together with his own cases this makes a total of 16 examples of ichthyosiform erythroderma which formed the basis of Brocq's first article. In this article Brocq also mentions the following cases which he regarded as possible examples of the disease under consideration: Moore (*St. Bartholomew's Hospital Reports*, 1874, x, p. 125); Byers—*pityriasis rubra associée avec ichthyosis* (*Med. Times and Gaz.*, Sept. 25, 1880, p. 374); Danlos—*érythrodermie chronique en réseau avec ichthyose* (*Bull. Soc. franc. de dermat. et de syph.*, Dec. 8, 1896).

BROcq ET DUBREUILH. *Erythrokeratodermie symétrique en placards (nervus erythrodermique hyperkératosique ou mal de Mélda)*. *Bull. Soc. franc. de dermat. et de syph.*, 1908, xix, p. 327.

The authors did not report the case in detail. The disease, according to the mother, developed at the end of the second year. The lesions began on the chin and the neck as red spots which slowly enlarged and became keratinized. Later, lesions developed upon several parts of the body. There was absolute symmetry. The lesions were sharply outlined. They were reddish-

\* A description of these cases will be found under the author's names in another part of the "Review of the Literature."

\* A description of these cases will be found in the review of Lenglet's thesis. The cases that are not associated with references will be found in the French text-books.

yellow in color (erythrodermic). There was a marked hyperkeratosis and a thickening of the entire epidermis in the affected areas. In addition there was a pronounced keratosis palmaris and plantaris which was the color of yellow wax, and a hyperidrosis of these parts. The lesions were slowly but steadily growing larger.

The authors do not think this is a case of localized or circumscribed ichthyosiform erythroderma, because in the latter the patches are not sharply defined and the erythroderma is more diffuse and extends gradually into the normal skin. The hyperkeratosis in this case was porokeratotic, as though it developed around the orifices of the sweat ducts—also there was considerable hyperidrosis, which ordinarily is not seen in ichthyosiform erythroderma. The case was regarded as one of "malady of Meleda." In both affections keratosis palmaris and plantaris occurred, but in ichthyosiform erythroderma it was most often encountered in the bullous type.

BROcq, L., et FERNET. *Erythrodermie congénitale ichthyosiforme avec un certain degré d'agénésie pileaire.* Bull. Soc. de dermat. et de syph., 1908, xix, p. 327.

J. P.; 15 years of age; male. Family history, negative. At birth it was noticed that his skin was red, thick and hard. The skin began to desquamate at the sixth week after an attack of gastro-intestinal trouble accompanied by convulsions. He was never healthy and in a few years he developed rheumatism. He was undeveloped mentally and physically. At 15 there was a generalized redness, particularly noticeable on the chest, back, neck and limbs. The erythroderma was more marked in the first few years of life. There was a generalized hyperkeratosis (ichthyosis cornea) with a fine desquamation. It attained its maximum of development in the flexures—elbows, axillæ, groins, popliteal spaces, neck and lower portion of the face. In some of these areas there was a marked papillary tendency and the color ranged from yellow to blackish. There was a seborrhœa of the face and scalp. The scalp hair was scanty but grew with normal rapidity. The nails were normal. There was no hair on the body—even hardly any lanugo hair. The lungs elicited signs suspicious of tuberculosis. There were palpable glands in the axillæ and neck. The cutaneous tuberculin test was strongly positive. The teeth were widely separated and many of them were blackish in color and longitudinally striated.

The authors are willing to accept Thibèrge's opinion that these cases of ichthyosiform erythroderma are but attenuated forms of ichthyosis congenita (congenital, malignant, diffuse keratoma). Or there may be transitional types between ichthyosiform erythroderma and ichthyosis congenita. Attention is called to the fact that there was no rapid growth of the hairs and nails—in fact hair was very scanty. "It would seem, then, that henceforth we must modify the name we gave to this affection; we must no longer call it congenital ichthyosiform erythroderma with hyperepidermotrophy, for we must admit, as was suspected by Lenglet, a pilar agenesis in some cases."

BROcq, L., et FERNET, P. *Cas d'erythrodermie congénitale ichthyosiforme sans bulles.* Bull. Soc. de dermat. et de syph., 1909, xx, p. 186.

Martha F.; age, 23 years. The father was alcoholic and the grandfather was syphilitic. Family history, negative. At birth the skin of the entire body was red and scaly. She was very unhealthy during her early life.

When seen by the authors the patient was undeveloped mentally and physically. The face was very red and the skin thickened, but there was no scaling. The chest, abdomen, back and extremities were all red and scaly. In some places the desquamation was furfuraceous, in other places larger scales were noted. The scales were of a grayish-white color. The hyperkeratosis was



more marked in the axillæ, the bends of the elbows, the back of the neck and on the palms and soles. There was a marked seborrhœa of the scalp. The scalp hair was somewhat scanty and fell out excessively, but seemed to grow with normal rapidity. There was very little pubic and axillary hair. The eyebrows and eyelashes were scanty. The lanugo hair on the body was not well developed. The nails were transversely striated.

There were distinct signs of hereditary syphilis. There was, also, hyperthyroidism. She first menstruated at the age of 15 and since then not more than four or five times a year.

PROÇQ, L., FERNET, et DELORET. *Erythrodermie ichthyosiforme symétrique, circonscrite et progressive.* Bull. Soc. franc. de dermat. et de syph., 1912, xxxiii, p. 511.

M. D.; male; age, 55. The family history was negative. At the age of 5 or 6 the skin of the hands and feet, especially the dorsal surfaces, became red and wrinkled, especially in cold weather. This was accompanied and preceded by a furfuraceous desquamation of the interdigital spaces. There was also a slight dryness and desquamation on the elbows and knees. When 18 years of age he developed a vesicular eruption on his hands and elbows which persisted for some time and which was thought to be eczematous. This eruption recurred at the change of season. Cold, emotion, excitement, etc., seemed to favor the onset of the attacks. Finally, the eczematous exacerbations ceased. At the age of 49, while in Persia, the hands became like parchment and new, dry lesions developed on the elbows and knees.

When examined by the authors, the eruption was symmetrical and limited to the upper and lower limbs. On the extensor surfaces of both elbows there was a large, brownish-red plaque. On one side the patch was sharply margined—on the other it faded gradually into normal skin. It appeared shriveled and atrophic. There was no thickening. The dorsal surfaces of the hands and fingers were covered with red, atrophic skin, with here and there a little thickening and scaliness. In places the eruption was sharply limited while in other places a margin was not noted. The skin was shriveled and slightly fissured. The hands were partially flexed. The skin of the palms was thickened, especially at the flexures, and there was considerable desquamation. There was no sharp line of demarcation at the wrist.

The nails were longitudinally striated and transversely ridged. They were studded with minute umbilications. The rate of nail growth was normal.

There were three silver-dollar-sized, brownish-red plaques without desquamation or thickening on the left buttock. There was some wrinkling apparently due to atrophy. In the intergluteal region there were a number of small red, slightly scaly patches. On the outer surface of the thigh there were two similar lesions which were palm in size. There was a similar number of small lesions on the right side. In all these lesions the hair was poorly developed. On the lower limbs there were numerous large, well-defined plaques, all of which were red and some of which were desquamative. There was a plaque over each patella. The feet presented about the same appearance as the hands with the exception of a very marked plantar keratosis with abundant desquamation. There was also a pronounced subungual keratosis.

The authors were able to definitely exclude the possibility of psoriasis; also pityriasis rubra pilaris and parapsoriasis. The atrophic skin on the dorsal surfaces of the hands suggested Herxheimer's acrodermatitis chronica atrophicans, but the other features of the case were totally unlike anything ever described under acrodermatitis. The authors call attention to the fact that ichthyosiform erythroderma can be localized, or generalized in circumscribed plaques, that it may be congenital, or develop after birth and show a progressive evolution; also that there may be periods of remission and exacerbation.



Although their case was quite different from the one reported by Darier,\* yet the authors believe that both cases are of the same type and should be placed under ichthyosiform erythroderma.

In the discussion Darier agreed with the authors' opinions and thought that both cases might be termed progressive erythrokeratoderma in plaques.

BROCQ, L., FERNET, et DESAUX. *Erythrodermie congénitale ichthyosiforme (keratodermie palmaire et plantaire symétrique et familiale)*. Bull. Soc. franc. de dermat. et de syph., 1913, xxiv, p. 416.

The patient was a girl of 17. Her father and paternal grandmother and three of the patient's sisters were afflicted with the same condition. A younger sister and brother were normal. The patient had a hypertrophied thyroid. She showed possible syphilitic stigmata, but the Wassermann reaction was negative. The cutaneous tuberculin test was also negative. The girl was of a rather delicate constitution. The eruption was first noticed by the mother when the patient was 9 months of age, but she admitted that it might have been present, but less noticeable at birth. The condition had remained unchanged ever since.

When examined, the palms were hyperkeratotic and fissured. The hyperkeratosis was well defined along the radial and cubital sides of the hands and at the wrists by a red border. The skin in the red border was slightly thickened. In some places the horny layer was very thick. The palms showed a hyperidrosis. The dorsal surfaces of the hands were normal. The thickened horny layer had a yellow color. In the flexures of the hands and fingers there was less hyperkeratosis so that instead of fissures there were deep furrows. The skin at these points was red. The plantar surfaces presented the same picture as seen on the hands. The dorsa of the feet were normal. The nails were normal. In addition to the above findings, there was a very slight erythroderma and thickening of the skin in the axillæ, the popliteal spaces, the elbow flexures and on the neck.

The authors describe four well-defined groups of ichthyosiform erythroderma: 1. Ichthyosiform erythroderma with or without bullæ; an affection characterized by its being congenital, having a more or less marked redness of the skin, by a more or less pronounced keratosis, by the important fact that the large flexures are markedly involved and by the generalization of the eruption which is almost universal. 2. The circumscribed formations to which would belong most of the congenital palmar and plantar keratodermas. 3. A type described by Neumann and Ehlers, under the name of "malady of Meleda," in which the congenital palmar and plantar keratoderma, in its most marked degree, is accompanied by a thickening of the skin of the flexures of the large articulations and, also, hyperkeratotic plaques on the elbows and knees. 4. Finally, one of the rarest morbid types, studied particularly by Brocq, Dubreuilh, Thibierge, and Darier, which is not congenital, which develops gradually, and which presents well-defined erythrokeratodermic plaques. This is related symptomatically to ichthyosiform erythroderma, but should be placed, nosologically, among the nævi.

Between these four morbid types there are numerous transitional forms. The case presented falls under the heading of palmar and plantar keratoderma, but as there were lesions on the elbows, in the axillæ, and on the neck,—slight it is true,—the authors are led to regard the case as an attenuated form of ichthyosiform erythroderma—or an intermediary type between this affection and symmetrical, congenital, palmar and plantar keratoderma.

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\* A description of this case will be found under the author's name in the "Review of the Literature."

LENGLET, E. Vue d'ensemble sur quelques dermatoses congénitales et en particulier sur les *érythrodermies congénitales ichthyosiformes avec hyperépidermotrophie* de Vidal-Brocq. *Thèse de Paris*; 1902, No. 598.

Lenglet has written a masterly thesis of 162 pages in which he describes and classifies many of the congenital dermatoses. We will review only the chapters that pertain to the questions under consideration. The third chapter is entitled "les *kératodermies palmaires et plantaires congénitales et leurs associations*." Known by the names of *keratodermie palmaire et plantaire symétrique congénitale et héréditaire* (Besnier), *tylosis palmæ et plantæ hereditarium*, *maladie de Méléda*, *akrokeratome hystriforme hereditarium*, *teleangiectasie symétrique et congénitale avec hyperidrose* (Neuburger), there is a condition which is well known but which should be analyzed. He divides the affection into three groups: 1, lesions limited to the hands and feet; 2, involvement of the articular flexures and sometimes the nails; 3, exceptional, where there is a combination of the first two groups together with pilar agenesis. The first group is represented by the ordinary palmar and plantar keratoderma of Besnier. The second group is the malady of Meleda and the condition described by DuCastle and Baudouin: *teleangiectasie symétrique familiale et congénitale avec hyperidrose*. The third group is represented by a case presented by Hebra (verrucous keratosis of the palms and soles, with erythroderma and excessive sweating; seborrhœa of the face (*Ann. de dermat. et de syph.*, 1891, p. 549) and a patient who was under the other's observation (hereditary, symmetrical, keratoderma of the palms and soles; hyperkeratosis of the elbow flexures and total alopecia; seborrhœa of the face). Attention is called to the fact that the condition may never show a keratoderma, but only an erythroderma with hyperidrosis and a thickened skin as in the case reported by DuCastle and Baudouin, which is probably an example of the malady of Meleda (*Ann. de dermat. et de syph.*, 1899). Also there is a predilection for regions richly supplied with sweat and sebaceous glands. Finally, a fourth group is mentioned in which the keratoderma is consecutive to erythroderma and a bullous eruption, as shown by the cases of DuCastle (*Ann. de dermat. et de syph.*, 1900, p. 1232) and Alpar (*Monatsch. f. prakt. Dermat.*, 1899, p. 412). The mal de Meleda is described by quoting the cases reported by Neuman (*Ueber Keratoma hereditarium*, *Arch. f. Dermat. u. Syph.*, xlii, p. 163) as having been observed in the Island of Meleda (South Dalmatia) and later by Ehlers (mal de Meleda, *Ann. de dermat. et de syph.*, 1897, p. 657). The dermatosis consists of a congenital and familial keratosis chiefly of the palms and soles, and hyperkeratosis of the knees and elbows with some thickening of the skin of the large flexures. On the palms and soles the thickened horny layer consists of yellow, horny plates with black dots corresponding to the orifices of the sweat ducts. Hyperidrosis is a marked feature and there is considerable erythroderma. The lesions are sharply margined. The nails are thick and curved.

CHAPTER 4 deals with congenital atrophies of the skin and appendages. He shows that these atrophies may exist alone or they may be secondary to the congenital keratoses, therefore they are transitions.

In CHAPTER 5, the author considers the generalized congenital dermatoses. He first discusses the physiological desquamation of the newborn and then considers the condition known as ichthyosis sebacea (Kaposi) or *desquamations lamelleuses des nouveau-nés* of the French school. As examples of this dermatosis he cites the reports of Grass and Török (*Ann. de dermat. et de syph.*, 1895, p. 104), Carlini (*Giorn. ital. d. mal. ven. e. d. pel.*, March, 1895) and Brauns (*Dermat. Ztschr.*, 1897, iii). The condition consists of a parchment-like or paraffin-like skin which becomes broken into scales and which disappears spontaneously in a few weeks or months. The author cites Bowen (*Jour. Cutan. Dis.*, November, 1895), who reported an example of this disorder

and who, as a result of microscopical studies, concluded that the affection consisted simply of the persistence of the epitrichial coat.

The author next considers the question of *ichthyose foetale* or *kératome malin diffus congénital* (ichthyosis congenita). The description of this serious and well-known condition is taken from Thibière's chapter in the *Pratique dermatologique*.<sup>\*</sup> The interesting point in this part of Lenglet's thesis is the recognition by Thibière and by the author of a benign or attenuated type of the affection. Cases of this kind were reported by Thibière, Hallopeau and Watelet (*Bull. Soc. de dermat. et de syph.*, 1891), Sherwell (*Jour. Cutan. Dis.*, 1894, p. 385) and Southworth (*Arch. Pediatr.*, October, 1894). Furthermore, some of these benign cases presented many of the features of Brocq's ichthyosiform erythroderma. Lenglet believes there are transitions between the physiological desquamation of the newborn and the lamellous desquamation of the newborn and, also, between the latter and ichthyosis congenita as shown by the cases of Hallopeau and Watelet,<sup>\*</sup> and Thibière,<sup>\*</sup> which he admits resemble ichthyosiform erythroderma.

Ichthyosiform erythroderma is divided into two groups by the author: A, *érythrodermie congénitale ichthyosiforme avec hyperépidermotrophie compliquées de bulles*, and B, *sans complication de bulles*. As an example of the first group he records Besnier's<sup>\*</sup> case and Thibière's<sup>\*</sup> first case. The author considers Sangster's case to belong to this group, but he thinks it is a transition between "*keratodermie hyperépidermotrophique*" (ichthyosiform erythroderma) and the benign type of ichthyosis congenita (ichthyosis fetale). Sangster reported his case under the title of congenital exfoliation of the skin (*Brit. Jour. Dermat.*, 1895, p. 355). The patient was a woman of 25, who was mentally undeveloped. The family history was negative. The dermatosis developed 3 weeks after birth. It began on the face and required 3 years to cover the body, after which it remained stationary. There was the usual amelioration during the summer when perspiration was active, but in the winter desquamation and itching were marked features. Nearly the entire body surface was divided into rectangular fields in some of which the skin was thickened, red and rough to the touch, while in others it was like parchment. The parchment-like skin cracked and desquamated, leaving a red surface upon which another squam soon formed. The palms and soles were normal with the exception of a severe hyperidrosis. The maximum development was on the abdomen, the back and the outer surfaces of the thighs. The scalp was scaly.

Nielsen's case (*Ichthyosis mit teilweiser atypischer Lokalisation und Sclerodactylie aus dem frühesten Kindesalter stammend*, *Dermat. Ztschr.*, 1899, p. 241), is mentioned as somewhat analogous to that of Sangster's. The patient was a young girl who was born in the seventh month of gestation. There was a desquamation at birth and this had continued. The palms and soles were affected, especially in winter. Sweating in these locations was intense. While neither Nielsen nor Lenglet regard this case as one of ichthyosis, they admit that her sister had a true ichthyosis.

The author now reports a few cases which possess the foregoing features and which, in addition, show an atrophy of the extremities—a pseudo-scleroderma—probably secondary to the keratoderma. Max Joseph's case (*Ann. de dermat. et de syph.*, 1899, p. 158), is very interesting in connection with certain transitional types, and especially when considering Darier's<sup>\*</sup> case. The patient was a male, 17 years of age. There was a generalized verrucous hyperkeratosis.

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<sup>\*</sup> A detailed report of these cases and conditions will be found under the authors' names in the "Review of the Literature."



The elbow flexures, the palms and the soles were involved. The hands were atrophic and this was thought to be due to the pressure of the thickened horny layer. Histologically, the rete was atrophic and covered with a great mass of hyperkeratosis. The granular layer was present, but although Unna claims that this is absent in ichthyosis, Joseph does not exclude ichthyosis because of its presence. Contrary to Unna's opinion, Joseph considers that there is a connection between keratohyaline and keratinization. Elastic tissue was absent in the upper layers of the derma and atrophied elsewhere. There was a mild inflammation. Pigment was present in the upper corium as well as in the basal layer. Joseph does not think that his case can be separated from ichthyosis.

Rona's (*Hochgradige Ichthyose im Säuglingsalter*, *Arch. f. dermat. u. Syph.*, 1889, No. 3) patient was a female infant, 18 months' old. The family history was negative with one important exception. The mother had another infant (male) who, within a few days after birth developed red patches on the body. Later, these patches increased numerically and in size so that within two months the eruption was generalized. The skin soon became scaly. The infant died in the fourth month. The past history of the living child showed that the dermatosis was first noticed on the face in the third month. By the fifth month it had appeared on the hands, the lower back and the lower extremities. The lesions ranged in size from a dime to extensive plaques. The eruption became generalized in the eighteenth month. The affected skin was reddish-yellow to reddish-brown in color, thickened, and covered with adherent scales. The palms and soles were scaly, atrophic and fissured. The nails were thick and fissured. The legs were atrophic and scaly—parchment-like. Rona thought that the atrophy was due to the pressure of the thickened horny layer. In this connection Lenglet mentions Schourp's case (*Ueber Ichthyosis hystrix*, *Dermat. Ztschr.*, 1899, p. 339) in which, in addition to a marked hyperkeratosis of the palms, soles and articular flexures, there was considerable atrophy and retraction of the skin. The remarkable feature of the case was the disappearance of the dermatosis from all the affected parts with the exception of the palms and soles.

Lenglet calls attention to the erythroderma that precedes the keratoderma and the subsequent atrophy and retraction of the skin in the dry type of ichthyosiform erythroderma. He agrees with Brocq that Hallopeau and Jenseime's case (*Sur une ichthyose avec hypotrophie simulant une sclérodémie*, *Bull. Soc. franc. de dermat. et de syph.*, 1895) should be placed in this group, because of the localization and the atrophy. The patient had a generalized ichthyosis of moderate severity. The articular flexures were involved. The skin of the face was atrophic and the eyelids retracted. All surfaces of the hands and feet were atrophic. The nails were involved. The bony skeleton was underdeveloped. The authors thought that the scleroderma-like appearance was caused by an insufficient development of the skin. In this group Lenglet places Giovannini's case (*Ueber einen Fall von Ichthyosis mit Hypertrophie der Schweissdrüsen*, *Arch. de Dermat. u. Syph.*, 1894, ii, p. 567) on account of the location, the involvement of the nails and the alopecia. The disease was present at birth. It consisted of an ordinary ichthyosis with a hystrix-like condition of the palms and soles. In addition, there were places where the dermatosis resembled the anserine variety of ichthyosis with the exception that the conical papules consisted of a hyperkeratosis of the sweat-duct orifices instead of the pilo-sebaceous orifices. The nails were thickened, curved and furrowed. There was an almost complete, generalized alopecia. In this connection Lenglet reviews the case reported by Glawtsche and later by Metscherski; abnormal case of ichthyosis (*Dermat. Ztschr.*, 1899, p. 227). There was a generalized ichthyosis with erythroderma and involvement of the flexures, the face and the nails. In addition there was a hyperkeratosis of the sudoriparous orifices.



Histologically, there was a moderate acanthosis and a very marked hyperkeratosis which involved the orifices of the sweat ducts. The papillæ were a little thickened and the superficial vessels were surrounded by a slight infiltration. The authors suggest the name *hyperkeratosis striata erythematos* (Hebra). In discussing this case Pospelow considered it to be clinically different from ichthyosis on account of the erythroderma and the involvement of the flexures; also the fact that histologically the sweat apparatus was found to be involved. Lenglet likens Elliot's case (Sebaceous Keratosis Associated with Hypertrichosis, *N. Y. Med. Jour.*, 1885, p. 64), to that of Rona, only that the former remained localized.

Lenglet avers that the cases reported so far in this chapter belong to a distinct group because of the generalization of the eruption, the involvement of the flexures, palms and soles, and face and scalp. He explains the absence of erythroderma in some of the cases by the fact that this phenomenon was overlooked. He also places considerable importance upon hyperidrosis of the palms and soles. "It is possible that these cases must be considered, as is done by several authors,—Joseph, Rona, Hallopeau and Jeanselme,—as a benign or attenuated form of ichthyosis congenita (ichthyose fœtale) but there is nothing to prove that this hypothesis is correct, and it would even seem that *kératome malin diffuse congénital* (ichthyosis congenita) is essentially different from these cases of ichthyosiform erythroderma. Ichthyosiform erythroderma is no more closely related to ichthyose fœtale than it is to the *desquamation lamelleuse des nouveau-nés* or Hebra's *ichthyose sebacée*. And it is no more certain that these affections possess a common parent. It would seem preferable to consider the three affections on terms that would designate a series of morbid conditions of a more or less common origin and nature, but having an essentially different evolution."

The author next considers another type of ichthyosiform erythroderma—*érythrodermie congénitale ichthyosiforme sans lésions palmaires*. In this category he places Rashch's case\* and also the case reported by Alpar (Ein Fall von *Exfoliatio epidermidis neonatorum*, *Monatsch. f. prakt. Dermat.*, 1898, xxvii, p. 554). The patient was an infant, 3 months' old. There was a generalized redness and scalliness, the scales being the size of a finger nail and easily removed. The palms and soles were free; the face was only slightly affected. The scalp was covered with seborrhœic crusts. The dermatosis was noticed a day or two after birth.

Lenglet was in doubt about the nosological position of Neuburger's case (*Akrokeratoma hereditarium*, *Monatsch. f. prakt. Dermat.*, 1891, xiii, No. 1), but believed it could be placed under ichthyosiform erythroderma. Neuburger employed the name akrokeratoma to signify an hereditary keratoderma of the body and extremities or of only the palms and soles.

Neuburger's patient was 66 years of age. His father and mother were similarly affected. The dermatosis began on the hands and feet in infancy. The patient never perspired, even in hot weather, excepting a little in the axillæ. The skin of the entire body was of a yellowish-brown color; the conjunctivæ and the buccal mucosa were yellow. The skin was rough, thick and dry—rugous. Here and there were small, white areas which resembled scars. Scattered over the body were pea-sized, violaceous nodules from which could be obtained a gelatinous material of a yellow color. The palms and soles were normal, but the nails were involved. The histology showed a very thick horny layer. The granular layer was thickened, excepting over the papillæ. The surface of the epidermis was undulating. The prickle layer was also thickened excepting over the papillæ, where there were only two or three

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\* A description of this case will be found under the author's name in the "Review of the Literature."

layers of cells. The pegs were flattened. The basal layer was well formed and rich in pigment. Numerous mitoses were encountered. The derma was thinned. The connective tissue was well formed, but poorly supplied with vessels and cells, particularly in the lower part of the derma. There was no vascular dilatation nor infiltration. Elastic tissue was reduced in amount. The sweat glands were unusually superficially placed and they showed some degeneration. Essentially there was a hyperplasia of the entire epidermis and especially of the horny layer, a prolongation of the papillæ, and an almost complete disappearance of the subcutaneous fat. Neuburger does not think his case is one of ichthyosis because there was no desquamation in spite of the marked increase in thickness of the horny layer. Presumably, in his case, the elbows and knees were unaffected for we find, "In ichthyosis of this degree the knees and elbows would not be spared. There is not, in ichthyosis, so much difficulty in picking up the skin": in this case the adherent skin resembled scleroderma. In ichthyosis the rete is thinned, there are no mitoses and the granular layer is not well developed. The derma in ichthyosis is thickened instead of thinned (Eichhorts, Neumann) and there is a dilatation of vessels and pigment is present in the true skin.

The final group of the ichthyosiform erythrodermas are now considered—*érythrodermie congénitale ichthyosiforme avec hyperépidermotrophie compliquées de bulles*. Here, again, the disease may be divided into two groups: with and without involvement of the palms and soles. The author quotes in full the cases of Besnier and Doyon,\* Brocq,\* and Nikolsky.\* He also gives a long, detailed description of one of Brocq's cases (I. Roger) to which he adds some observation of his own after the patient had been transferred to him. These facts also will be found under Brocq's name in the "Review of the Literature."

In differentiating ichthyosiform erythroderma from ichthyosis vulgaris, Lenglet submits the following table:

Lenglet believes there is a great clinical difference between ichthyosiform erythroderma and ichthyosis vulgaris. In the latter there is no erythroderma, the border of the scale is almost as adherent as in the centre and it is difficult to detach. The articular flexures are respected. There is no palmar hyperidrosis. There is no keratoderma of the palms and soles, or if so, it is not a prominent feature. The face is not involved. Hair is scanty. There is no atrophy nor scleroderma.

There is nothing in common between ichthyosiform erythroderma and the lamellous desquamation of the newborn. The author does not believe that ichthyosis congenita and the dry type of ichthyosiform erythroderma are the same, unless one accepts as benign examples of the former the cases reported by Hallopeau and Watelet,\* Sherwell,\* Manning, etc. If these cases can be regarded as intermediaries between the two diseases then there is a relationship, but ichthyosiform erythroderma must be separated from ichthyosis congenita.

Pityriasis rubra pilaris is excluded because it is not congenital, there are no bullæ, the nails are affected in a totally different manner and then there is the pronounced follicular involvement to be considered.

Lenglet concludes by considering, in differentiation, the exfoliating erythrodermas of the newborn. He mentions two types: one, the Ritter type, which includes congenital and acquired lesions caused by unknown infections or autotoxic agents. The other—congenital, generalized, exfoliating dermatitis of embryonal origin, is not yet recognized as an entity but the author believes that it does exist. Cases have been reported where there was a congenital,

\* A description of these cases will be found in this review of Lenglet's thesis.

ERYTHRODERMIES CONGÉNITALES ICHTHYOSIFORMES AVEC HYPERÉPIDERMOTROPHIE.

A. Without formation of bullæ	1. With palmar and plantar lesions. Keratoderma. Atrophy of skin and of the skeleton.	Erythrodermia. Generalized hyperkeratosis with exaggeration at articular flexures. Direction of hyperkeratotic lines parallel with the flexure folds—perpendicular to the long axis of the limb. The hyperkeratotic cubes, cones and scales are easily removed. Flexion of articulations is difficult if not impossible.	Common symptoms of these dermatoses. Combinations of these symptoms produce the various clinical types. The rarest are indicated by the sign.*
B. With bullæ, akatholysis, friability of epidermis.	2. Without palmar and plantar lesions.		
	1. With palmar and plantar lesions.	Temporary ectropion. Cutaneous atrophy. Rapid and excessive growth of hair and nails. Squamous and seborrheic lesions on scalp. Lesions on the face consisting of squames, vascular dilatation and erythrodermia.	
	2. Without palmar and plantar lesions.	Palmar hyperidrosis (this is sometimes the initial symptom). Parakeratosis, demonstrated by fact that the corneous substance is easily swollen by water. Lesions on face and neck. Alopecia.* Adenopathies. Akantholysis. Friability of the epidermis. Traumatic bullæ.*	
* This symptom is found only in the bullous type.			



generalized bullous formation and Lenglet believes that such cases are a transition between congenital exfoliating dermatitis and epidermolysis bullosa. The bullous type of ichthyosiform erythroderma is an example of such a transition.

DANLOS. *Erythrodermie ichthyosiforme bulleuse*, *Bull. Soc. franc. de dermat. et de syph.*, 1904, xv, p. 326; *Ichthyosis cornea*, *ibid*, p. 99.

The patient was a male who presented a marked generalized hyperkeratosis which involved the flexures. There was a mild erythroderma on the lower portion of the trunk and on the lower limbs. There was a seborrhœa of the face and scalp. The growth of the hair and nails was not excessive. The condition had lasted as long as the patient could remember. In addition to the above symptoms, flaccid bullæ occasionally developed without any apparent cause. They soon healed without scar formation. Finger pressure produced an exfoliation of the epidermis (Nikolsky's symptom). The author stated that the bullæ might have been produced by slight traumatism and that the bullous lesions had occurred only on parts that were subject to injury. The patient had been previously presented as one of ichthyosis cornea.

JADASSOHN, J. (*Familiare Blasenbildung auf Kongenitaler Basis. Keratoma palmaris und plantaris.*) *Abortive Form der dystrophischen Epidermolysis hereditaria, resp. der Erythrodermie congenitale ichthyosiforme.* *Verhandl. d. deutsch. dermat. Gesellsch.*, 9th Congress, 1906, p. 381.

The author observed in two generations of the same family (2 adults and 2 children) a disease possessing the following features: A generalized hyperkeratosis, especially marked at the anterior folds of the axillæ. The face and scalp were unaffected. The dryness and scaliness of the general surface was that of a very mild ichthyosis—xerosis. There was also considerable pigmentation and some atrophy. The nails showed dystrophic changes. Localized hyperidrosis was noted. There was a hyperkeratosis of the palms and soles. In the two children (boys) vesicle formation was noticed soon after birth and this continued for several years. In none of the cases was there ever any erythroderma.

DE BUY WENNIGER. *Erythrodermie congenitale ichthyosiforme avec hyperépidermotrophie.* *Nederland. Tijdschr. v. Geneesk.*, 1907, xliii, p. 510.

Girl, 15 years of age. There was an unusual development of hair on the scalp and body. There was a generalized erythema and ichthyosiform condition of the skin. The horny layer was much thickened, especially so on the back, the lower extremities and the neck. The abdomen and face were less involved. The nipples and umbilicus were unaffected; the eyelids were only slightly thickened. Both the hands and feet were covered with a markedly thickened horny layer.

Histologically, there was a pronounced hyperkeratosis with a thickening of the rete. The granular layer was normal. There was nothing of note regarding the rete cells themselves. The papillæ were enlarged and there was some inflammation in the upper corium with dilatation of the vessels and a mild, diffuse infiltration. The epidermis was thrown into folds by papillary elevations with corresponding depressions.

The author did not think the case was one of simple ichthyosis nor did it conform to pityriasis rubra pilaris. In his opinion it was analogous to Brocq's ichthyosiform erythroderma.

BIZARD, L., et LANGEVIN. *Erythrodermie congenitale ichthyosiforme avec hyperépidermotrophie.* *Bull. Soc. franc. de dermat. et de syph.*, 1908, xix, p. 92.



Mrs. M., 38 years of age. Family history, negative. The disease began at the age of 13 months with a generalized bullous eruption. The bullæ appeared in a very short time, leaving desquamating areas. The general health of the patient was good. There was a slight exophthalmic goitre. There was a mild seborrhœa of the face. The eyelashes were scanty, the conjunctivæ congested and the lower lids everted. The scalp hair was very thin in areas. While the hair fell badly it regrew very rapidly. There were areas of crusted seborrhœa on the scalp and here and there a scar could be detected. The general surface of the body showed a dry, scaly, thickened skin. The horny layer of the skin of the neck was very thick, papillomatous and black in color. The elbow flexures presented parallel, transverse, black, corneal ridges. The same condition was noted on the posterior axillary folds. The axillæ contained very little hair and sweated profusely. The folds of the groin and the popliteal spaces also presented a marked hyperkeratosis. There was considerable hyperkeratosis of the hands, especially the palms. The nails were bulbous and showed transverse furrows. They grew rapidly.

Beginning at the 13th month, the bullous attacks were frequent and were preceded and accompanied by fever and malaise. As the patient matured the bullous attacks became less frequent—the last outbreaks being 10 months apart. The patient was worse in winter than in summer and the bullæ always developed in the cold months. On the hands, where the horny layer was very thick, bullæ could not develop, but localized areas of intense œdema accompanied by blanching represented the same phenomenon. These areas often became infected with the production of a superficial abscess which healed without the formation of a scar. The development of bullæ was sudden and spontaneous. They could not be produced by traumatism. In early life there was considerable erythroderma which tended to disappear as the patient matured.

The patient had been pregnant 8 times. The first pregnancy resulted in a miscarriage. The second child showed a marked desquamation of the face at birth. It died of convulsions in the fifth month. The third child was healthy and remained so. The fourth child had no cutaneous lesions. He died on the tenth day, of meningitis. The fifth child died in the tenth month, of sunstroke. The sixth child was in good health and remained so. There were no cutaneous manifestations. The seventh child, a boy, presented a cutaneous disease which will be described in full. The eighth child died on the fourteenth day—the skin was normal.

The history of the seventh child is herewith given: After a very difficult delivery it was seen that the entire body was very red. The legs, feet, forearms and hands were stripped of epidermis. The same condition, but to a less extent, was noted on the chest and abdomen. This was thought to have been due to the previous presence of bullæ. A few hours after birth flaccid bullæ developed along the spine, and there were excoriations of the nostrils and the arms and forearms. The nails and hair were unusually well developed. In a day or two areas of hyperkeratosis were noted on the hands and feet and here and there on the body. Bullæ continued to form and the child died on the fifth day. An autopsy revealed nothing of note.

Conclusions. "It is decidedly not easy at first sight to label exactly this double case of mother and son which we have just presented.

"The most striking feature in the mother's case was ichthyosis; but as Brocq has pointed out in various publications in regard to similar patients, it is not a question here of true ichthyosis, and for the reason that, in our patient: A. The ichthyosis lesions attained their maximum development in the large joint articulations, unlike true ichthyosis. B. The hair and nails grow rapidly, contrary to what occurs in true ichthyosis. In the same manner the cutaneous lesions of the infant might be placed in the extensive order

of foetal ichthyosis. But, in reality, in both mother and child, we are dealing with ichthyosiform erythroderma, complicated with hyperepidermotrophy, with almost all the characteristics described by Galloway, and Brocq in particular.

"The lesions do not, indeed, appear to be congenital in the mother's case; being obliged to trust to her information we can make no assertion in this respect. But we believe her to be mistaken, for in this ailment the first symptoms, which appear after birth, are erythroderma, complicated more or less with bullous eruptions; later, the erythroderma shows a tendency to disappear, while on the general surface of the skin trophoneurotic disturbances make their appearance, terminating in a sclerous condition of the superficial layers, and the production at certain points of lesions of false ichthyosis."

In the discussion. Lenglet remarked that another interesting fact in this woman's case was the exaggerated growth of down, even on the bends of the joints, and in the palmar keratoderma, many such patients having intact palms. Furthermore, Bizard's patient had alopecia, which is rarer than the absence of keratoderma.

NICOLAS, J., et JAMBON, A. *Contribution à l'étude des érythrodermies congénitales ichthyosiformes avec deux observations forme typique et forme atypique.* *Ann. de dermat. et de syph.*, ser. 4, 1909, x, p. 481.

Claudis J.; age, 6. The disease was present at birth. The eruption was generalized, symmetrical; almost universal. The palms and soles were normal, but the remainder of the body was covered with skin that was more or less thickened so that the normal skin markings were exaggerated. Over this thickened skin there was a hyperkeratosis which assumed varying degrees of thickness and which varied in appearance in different parts of the body. There was a generalized, underlying redness. The scalp was covered with waxy scales. The hair was normal. Ears: squamous. Face: dry and scaly; had a collodion-like appearance with a little ectropion. Neck: whole surface was affected, but scales were very thick posteriorly. Trunk: rather fine, dry, removable scales, excepting at umbilicus, pubic region and crural folds, where there were black, closely crowded, cube-shaped, horny elevations. The intergluteal fold was normal. The skin of the scrotum and penis was thickened and scaly. The axillæ contained black, corneal elevations, arranged regularly in lines. Arms and forearms: dry, slightly scaly and parchment-like. The squames were thick at the wrists, over the deltoids and at the elbow. The elbow flexures were slightly scaly. Hands: dorsal surface dry; skin thinner than normal; no scales. Pains, normal. Nails, normal. The thighs were desquamative and the normal lines of the skin were accentuated. There were corneal elevations in the popliteal spaces. The skin over the knees was thickened, wrinkled and squamous. The legs showed a less pronounced condition than that of the thighs. Feet: dorsal surfaces, dry and scaly; plantar surfaces, normal. There was normal lanugo hair on the limbs.

The patient was under observation for four months. During this time it was noticed that there were periods of improvement due at times to treatment and at other times the amelioration of the objective symptoms was apparently spontaneous. An increase in both the erythroderma and the keratoderma was noted on several occasions. In addition, the palms became keratotic and the nails became transversely striated. The patient's general health was good and there were no other deformities nor stigmata. Figs. 15 and 16.

Paul C.; age 7. The dermatosis developed 5 weeks after birth. Family history: The grandfather had a rough skin. One uncle had what probably was psoriasis. The mother had ichthyosis-like lesions of the upper extremities and a keratosis pilaris of the legs. Past history: The patient's dermatosis began on the face and spread slowly over the body. At the end of a

year it was limited to the face and extremities and was not very marked. While the condition grew more pronounced as the patient matured there were distinct interruptions in the evolution. The eruption disappeared almost entirely at the first vaccination and again after an attack of scarlet fever. Changes of air and diet and treatment seemed to modify the dermatosis. But there were also periods of spontaneous remission and exacerbation.

The child was normal in development and in health. In a general way the eruption consisted of scaly, circumscribed patches, symmetrically distributed over the body. There was an erythroderma and a slight pruritus. Scalp: waxy scales in patches. Hair grew normally. Face: dry, drawn, red. The skin cracked, producing a scaly appearance. The face had a varnished appearance—collodion mask. There was ectropion. Ears: red, scaly; lobes showed a papillomatous hyperkeratosis. Neck: skin here was lichenified, brownish-red and the flexure folds were exaggerated; fine desquamation. At the base of the neck there was a sharp, red line of demarcation. There were several small, similar plaques on the upper back and over the deltoids. The trunk was normal. On the arms there were symmetrical, sharply outlined, slightly scaly, brownish-red plaques of varying size. Their borders were rosy red in color. On the forearms, the eruption was more diffuse but there was a long strip of normal skin on the flexor surfaces. The elbow flexures were affected. In the normal skin there were small, scaly papules which somewhat resembled psoriasis. The skin of the wrists and backs of the hands was infiltrated and fissured. The palms were dry and glossy. Otherwise they were normal.

A few lesions were on the penis and one small plaque was noted on each groin. On the thighs and legs there was the same festoon-like, symmetrical arrangement of the lesions with the same color and scaliness as noted on the arms. The desquamation was slight on the buttocks and thighs, but quite pronounced on the legs—less marked again on the dorsa of the feet. The popliteal spaces were involved. The soles were practically normal. The mucous membranes were normal. The nails showed no changes. The hair, also, was normal. Neither the hair nor nails grew more rapidly than normal.

The patient was under observation for five months. During this time spontaneous involution occurred in many of the lesions—some of them almost disappearing, only to return. The lesions would also temporarily disappear under local applications. The authors were also able to observe the evolution of new lesions in areas previously unaffected. The primary lesion was a red or reddish-brown macule which became slightly infiltrated and scaly. This would then spread peripherally and by joining similar lesions, large patches were produced. The dermatosis attacked the abdomen and back and the axillæ. In the axillæ and on the back of the neck the hyperkeratosis became very pronounced. It was blackish in color and formed cuboidal, horny cones.

The histological examination was made by Favre. The derma was thickened and there was, in general, a paucity of cellular elements—connective-tissue cells. There was, however, a very slight perivascular infiltration of small, round cells—apparently connective-tissue cells; there were no plasma cells. The author adds that there were no signs of inflammation. The sebaceous and sweat glands, and the muscles were normal. The papillæ were normal in size and appearance. The most noticeable feature was a marked thickening of the horny layer with desquamation—a pure hyperkeratosis; there were no abscesses in the stratum corneum. The stratum granulosum was composed of one layer of cells which was not continuous. In places the cells were voluminous—even globular; keratohyaline granules were irregularly distributed; the nuclei were retained. The transition from stratum granulosum to stratum lucidum was abrupt. The swelling of some of the



cells in the granular layer caused an unevenness of the lucid layer. The cells of the stratum lucidum were fusiform, very transparent, with occasional nuclei where the cells were in contact with those of the granular layer. The Malpighian layer was slightly thickened between the papillæ, being composed of from 8 to 10 layers of cells. Over the papillæ the rete was thin, consisting of but 2 or 3 layers of cells (we assume a prolongation of the papillæ). The cells themselves and the general structure of the rete were normal. The basal layer was normal excepting over the papillæ, where they were flattened (probably due to pressure). The surface of the epidermis was undulating (probably due to the upward extension of the papillæ). Between the projections the horny layer was very thick; in some places it was as thick as the entire epidermis.

The authors consider their first case to be one of Brocq's *érythrodermie congénitale ichthyosiforme avec hyperépidermotrophie sans bulles avec keratosis palmaris et plantaris*. Only one detail was lacking, namely, the exaggerated growth of the hair and nails, which, as they state, does not mitigate against the diagnosis, as Brocq, himself, admits. The authors believe that it makes no difference whether or not the adnexa and the palms and soles are involved. They place considerable importance upon the paroxysmal character of the eruption and liken it to the bullous attacks described by others. They also state that while others had observed a retraction of the skin in certain regions, the flexures, for instance, they noted just the opposite—the skin seemed to be too loose. Their second case was unique in that the eruption occurred in sharply margined plaques. They state that the localized types of ichthyosiform erythroderma occurs on the palms and soles and in the flexures and that the patches are not margined. Furthermore, their second case presented very marked remissions and exacerbations. They believe that these remissions and aggravations of the eruption, together with the involvement of the flexures and the face, the seborrhœa of the scalp and the erythroderma, separate this dermatosis from ichthyosis. The authors agree with Brocq that ichthyosis vulgaris is quite distinct from ichthyosiform erythroderma. Hallopeau, on the other hand, considers that the latter, even with the bullæ and the flexure localization, is simply an intense form of the former. Meneau is in accord with Thibierge—that ichthyosiform erythroderma is an attenuated form of ichthyosis congenita (ichthyosis fetale) and that the latter is but a variety of ichthyosis vulgaris. Nicolas and Jambon, while not being willing to commit themselves, are inclined to consider that ichthyosis congenita (*keratome diffus matin congénital*) and ichthyosiform erythroderma are separate clinical entities. In this they are in accord with Brocq. The authors point out that Darier considers that these congenital hyperkeratoses, whether they are generalized (ichthyosiform erythroderma; ichthyosis congenita) or localized (mal de Meleda) are cutaneous malformations belonging to the order of the nævi, as the verrucous, hyperkeratotic and linear nævi. In this way he places in one group the greater part of the congenital "dyskeratoses," but excludes ichthyosis vulgaris.

Nicolas and Jambon state that nævi never show periods of exacerbations and areas of erythroderma. Ichthyosiform erythroderma is distinct from ichthyosis vulgaris and has grouped around it a large series of congenital dyskeratoses that are more localized—more attenuated perhaps. Among these "dyskeratoses," which are simply limited, incomplete forms of ichthyosiform erythroderma, the authors place the mal de Meleda, the essential palmar and plantar keratoses and their Case No. 2.

To be continued.



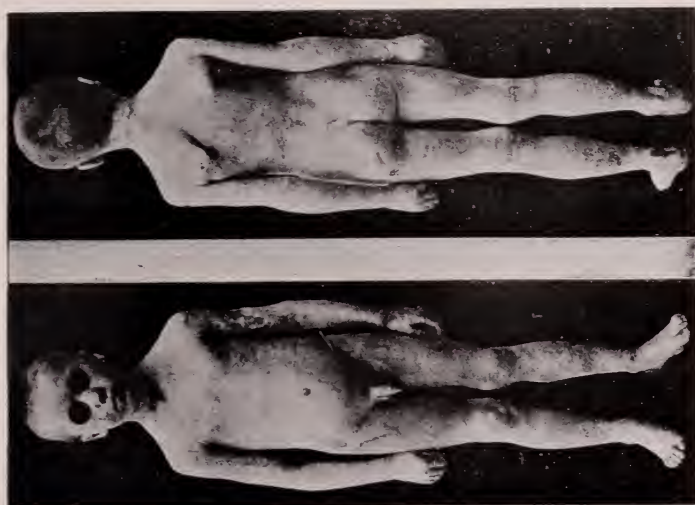


Fig. 16.  
Same as Fig. 15, showing remission.



Fig. 15.  
Nicolas and Jambon's First Patient.

## SPECIAL ARTICLE

## HISTOPATHOLOGY.

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## CHAPTER VIII.

## ECZEMA AND DERMATITIS.

It is necessary to precede any discussion of the minute anatomy of eczema and dermatitis with a brief recapitulation of some of the features of these diseases which are still widely regarded as distinct. In an analysis of this problem<sup>1</sup> the conclusion appeared inevitable to me that eczema is identical with that form of dermatitis, the precipitating causes of which are such substances as chemicals, vegetable poisons and the like. The only feature peculiar to what has been called dermatitis is the well known immediate cause. My contention is that in eczema some local, but not always demonstrable, exciting agent must be present, and that in both eczema and dermatitis a predisposition exists. Since eczema is an inflammation of the skin, it is a dermatitis. Since it is marked by the presence of an œdema and exudation, it is a catarrh. In both of these attributes it corresponds to dermatitis of known origin, and microscopically as well as clinically, the two conditions are substantially alike. The course of dermatitis is a brief replica of that of eczema. In both occur vesiculation on an erythematous base, followed by crusting and exfoliation, or exfoliation without crusting, subject to the number and size of the vesicles. Since dermatitis is occasioned by an ascertainable cause, which as a rule can easily be removed, it rarely becomes chronic. Eczema, on the other hand, is prone to become so. Hence, it often exhibits, among other signs of long continuance, thickening of the epidermis, lichenification, or elephantiasis. In those forms of dermatitis in which the exciting trauma is unsuspected and hence sustained, for example in the occupational varieties, similar secondary changes may be produced. Thus, under certain circumstances, the two diseases become indistinguishable even as to their course. Both may itch, burn or

pain. Conditions which are alike in appearance, symptoms, causation, evolution and involution may be presumed to be identical, and this presumption is further supported by their appearance under the microscope, for eczema and dermatitis cannot be separated anatomically.

The term of greater content is dermatitis, and this disease may be divided into two groups. In the first the precipitating cause may be ascertained; in the second it need not be. The second is eczema. This is directly in line with the views of Norman Walker whose logic is compelling. But dermatitis in its broadest sense includes too much. It includes dermatitis herpetiformis, sun-burn, dermatitis exfoliativa neonatorum, dermatitis calorica, congelationis, Wilson-Brocq's dermatitis, for example, and a long list of other conditions which have nothing to do with that form at present under consideration. The variety in question is one which is more or less localized or disseminated, red, papular, vesicular, pustular, squamous, and, if of long standing, lichenified or hyperkeratotic. A wide range of combinations of these features is possible. The causes of this type of dermatitis, which may roughly be called dermatitis venenata, are numerous and include chemicals and drugs, vegetable poisons found in diverse species of rhus, primrose and trees, animal poisons and so forth. There is a predisposition or idiosyncrasy to these substances, for only a small portion of those exposed become affected.

Microscopists have maintained that dermatitis and eczema differ at least in the one point, that the dermal changes of the former are found only high up in the corium, and those of the latter lower down as well. This is absolutely not true. The very grounds upon which Hebra concluded that eczema was a disease of purely external origin disprove this. He reproduced lesions with croton oil and microscopically could find nothing which distinguished them from those of dermatitis. Kulisch<sup>2</sup> in similar investigations evidently reached similar results.

Eczema is named after its clinical stages, sites, and to some extent after its causation and course. Thus we know eczema erythematosum, papulosum, vesiculosum, pustulosum, madidans, crustosum, squamosum, hyperkeratoticum, craquelé, verrucosum, tyloticum and atrophicum, according to the pathological form. We have eczema palpebrarum, ani, scroti, vulvæ, brachiorum, *et cetera*, according to site; eczema diabeticorum, cachecticorum, ex professione, *et cetera*, according to causation; and eczema acutum, subacutum and chronicum, according to course. No such classification is sound. The first group is perhaps the most acceptable,

as it denotes real anatomical differences. The second is meaningless save for the reservation that anatomic distribution causes certain superficial mechanical modifications. The third automatically removes the condition from the eczema group since it supplies the known cause, and thus forces the disease into the class of dermatitis of known origin. The fourth is valuable partly on clinical grounds, and partly because it denotes distinctions which are of practical descriptive value for the clinician and pathologist. It is also essential to remember that the predisposing causes of eczema may be general (*i.e.*, internal, metabolic) and local. Among the latter are seborrhœa, body folds, disydrosis, prurigo, ichthyosis and others. Of these, the first three are the most important. Seborrhœa is the commonest precursor of eczema; the body folds cause the intertriginous type; and disydrosis (*i.e.*, hyperidrosis, pompholyx, *et cetera*) frequently favors the development of eczema of the hands and feet. Prurigo, or other forms of chronic urticaria, and papular eczema are at times associated, or eczema may develop on such soil.

It is also necessary briefly to refer to three further conditions related to eczema, namely, the eczematides of Darier, Besnier's eczematization, and Engman's infectious eczematoid dermatitis. Eczematides are essentially similar to the so-called seborrhœic and dry eczemas. The term was first suggested by Darier<sup>3</sup> and offers nothing preferable to Unna's nomenclature. Microscopically, the two entities are alike. Unquestionably, one of the commonest local predisposing factors in the production of eczema are the seborrhœas or eczematides. These, together with all of the local and general predisposing causes of the disease, constitute that diathetic class of cutaneous manifestations called by Darier, eczematoses. Besnier, in 1892, who regarded eczema as a cutaneous reaction, recognized the influence of local predisposing diseases such as scabies and prurigo. He considered these maladies pre-eczematous, and postulated that they became eczema by a process which he called "eczematization." Microscopically, the lesions of an eczema due to eczematization, namely, a secondary eczema, correspond absolutely to those of primary eczema. Engman's<sup>4</sup> disease, undoubtedly, is closely allied to eczema, and its microbic origin is beyond dispute.

The most extensive studies on the minute anatomy of this disease must be accredited to Unna, and although some of his premises and



hence many of his conclusions cannot be accepted, a great deal of his work is fundamental. Everything connected with his micrococcus has been disproved, as a perusal of the Transactions of the Fourth International Dermatological Congress, held in Paris in 1900, will show. He regards the disease as an infection with this coccus. But, with the overthrow of this view many of his deductions have had to be abandoned. Thus, his conception of suborrhœal eczema is only partly correct. The frequency with which eczema arises on seborrhœal skin, as has been mentioned, is well recognized and has been accepted, but seborrhœa is not eczema either clinically or microscopically, any more than are ichthyosis or scabies. This also holds true of Darier's "eczematides." Outside of these considerations, however, the remaining facts brought out by Unna have been added to in no important respect by subsequent writers.

Unna<sup>5</sup> divides the pathology of eczema into two phases, the vesicular and the chronic or true forms. The vesicles are single chambered (Fig. 1), situated in the prickle layer, vary in size, (Fig. 2), and contain serum and fibrin in the relation of three parts to one part of pus cells. Balloons (See CHAPTER I.) are also found. About the vesicle the rete cells are flattened (Fig. 2) because of pressure. Older vesicles are seen amidst parakeratotic areas (Fig. 3). These have evidently arisen with the upward growth of the epidermis. In the corium below the vesicles, the contour of the papillary body may or may not be unchanged (Figs. 1 to 3). The vessels (Figs. 1, 2 and 4), are dilated even far below into the pars reticularis, the perithelia are swollen, the lymphatics are moderately dilated, and a slight perivascular lymphoid infiltration (Figs. 1 and 2) is seen in which the mast cells are not increased numerically, and in which no plasma cells are present.

In chronic eczema three distinct processes are found,—parakeratosis, acanthosis and spongiosis (Figs. 3, 5 and 6). Parakeratosis in eczema is attended by absence of fat in the nucleated and œdematous scale. Acanthosis is supposed to be due to a peculiar disturbance of growth balance between the pegs and papillæ. Unna's explanation of this is curious, involved and algebraically ingenious. The fact remains that, whatever the explanation, acanthosis is present, and all acanthosis represents a disturbed balance of the sort Unna endeavors to restrict to eczema. The acanthosis is due partly to intercellular œdema, partly to cellular œdema, and partly to cell proliferation. As a result, the

pegs lengthen and thicken, causing the papillæ to assume complementary proportions and contours. Spongiosis (Figs. 1, 2, 5 and 6) is a telling descriptive term given to the appearance imparted to the epidermis by intercellular or interstitial œdema. The intercellular spaces are dilated so that the cells are held apart by canals containing fluid. The picture is that of a sponge, the process is called spongiosis, and the epidermis showing this change is spoken of as being in a spongy state. Unna dislikes the expression spongy degeneration, preferring spongy alteration. The significance of spongiosis is that it represents the earliest step in the formation of chronic vesicles. As the intercellular spaces widen, the threads rupture, the cells swell, and when this happens to numerous contiguous cells a space (Fig. 5) is created, the walls of which is the spongioid rete, the contents of which are serum or pus, fibrin or pus cells and balloons, as already indicated in connection with the acute vesicle.

The vesicle may either rise (Fig. 3) as the epiderm grows upwards, finally reaching the scale stage, or it may rupture and its contents participate in the formation of a crust (Figs. 7 and 8). Crusting, however, may occur by an accumulation of serum under the scale, which lifts off all the latter (Fig. 8), thus leaving a denuded moist surface. A second method of vesicle formation is possible. The œdema may cease to be intercellular, and on irritation become intracellular leading to *altération cavitaire*. (SEE CHAPTER I.) This in sum represents Unna's views on the epidermis in eczema, minus the fantasy woven about the micrococcus. In the connective tissue the vascular and other changes already noted are found. Unna next tabulates eczema in stages which it may be interesting to recapitulate:

I. Status spongioides. This is eczema rubrum. The lymphatics are dilated, and marked parakeratosis and thickening of the granular layer are present.

II. Status hyperkeratoides. The vessels are dilated, the stratum corneum hyperkeratotic.

III. Status pruriginosus. Lichenification. (SEE CHAPTER VII.) No plasma cells, increased mast cells. Little spongiosis.

IV. Status psoriasiformis. More hyperkeratosis. Lichenification.

V. Status herpetoides. Grouped vesicles.

VI. Status seborrhœicus. (seven varieties with three subvarieties). In general characterized by parakeratosis, crusts, vesicles under crusts, increased fat, dilatation of vessels, *et cetera*. (SEE CHAPTER III, p.211).

Ivan Bloch<sup>6</sup> adds to Unna's three cardinal changes in eczema a series of alterations in the cutis, namely, an increase in the connective tissue cells, dilatation of the vessels, and œdema in the papillary body. The elastic and collagenous tissues remain normal. Unna, of course, had noted these facts too, but had not brought them out so categorically. Pautrier<sup>7</sup>, in a somewhat exhaustive study, divides the contents of the vesicle into several horizontal layers; the uppermost consists of serum, the second of serum and leucocytes, and the third of a thin band of leucocytes (Fig. 1). This band is found at the bottom of the upper third of the vesicle. The space below contains degenerating cells, some in the process of Leloir's alteration, others showing evidences of spongiosis. The entire vesicle is walled in as Unna describes, and the epidermis outside the vesicle and the corium shows the changes mentioned by the latter. Besnier, according to Brocq<sup>8</sup>, emphasizes hyperæmia, spongiosis, acanthosis and parakeratosis, but also takes into consideration *altération cavitaire*. Besnier's<sup>9</sup> conception of the structure of the vesicle is fantastic. He thinks that the centre contains serum and the periphery leucocytes, but in his views on the histogenesis he agrees with Unna, save that he lays greater emphasis upon the importance of intracellular œdema. Darier,<sup>3</sup> Ehrman and Fick,<sup>10</sup> Ormsby,<sup>11</sup> Walker<sup>12</sup> and others all agree on the essential histologic features of the disease. Jarisch<sup>13</sup> leans toward *altération cavitaire* as the starting point of the lesion. Otherwise, there is nothing of moment in his description.

Thus eczema is universally regarded as an inflammation with certain peculiar epidermal changes, and the general manifestations of acute or chronic inflammation in the corium. As Johnson<sup>14</sup> says, "Eczema differs not at all from the other fibrinous lymphocytic inflammations except in the histological peculiarities occasioned by its site." Unna<sup>15</sup> says, "The clinician must train himself to see with the eyes of a microscopist." This is, in the main, valuable advice, but not as regards eczema. It seems to me that the clinician will see less with the microscopist's eyes than with his own. Eczema is a catarrhal dermatitis, and under the microscope presents none too clear a picture.

It is remarkable, in glancing through the literature, to note how little has been written concerning dermatitis of the type with which this chapter is dealing. Kulisch's<sup>2</sup> investigations with croton oil and cantharides indicate that the vesicles produced are in the rete which is fairly riddled with apertures at all levels. These vary in size and contain fibrin,

serum and leucocytes, while the changes in the corium are like those in eczema. In other words, the picture corresponds with that of acute vesicular or papulo-vesicular eczema, corroborating Hebra's findings in his studies with croton oil. The chronic vesicular forms of dermatitis, such as the occupational or professional variety, are indistinguishable from eczema. In other words, there are no microscopic differences between the acute form of this disease and the so-called dermatitis. As has several times been stated in this paper, if the external trauma were sustained in a dermatitis, the latter would become chronic, and in this stage also exactly simulate eczema in its chronic forms. Thus microscopically in all stages the two diseases are alike. In other words, there is no eczema, eczema being a simple cutaneous catarrh.

In arranging this disease (*i.e.* eczema, dermatitis) for the descriptive purposes of histopathology all classifications may be ignored except those of its course and clinical appearance. Thus, an adaptation of the following scheme will be employed:

A. Acute.

1. Erythematous eczema.
2. Papular eczema.
3. Vesicular eczema.
4. Weeping and crusted eczema.
5. Scaling eczema.

B. Subacute and Chronic.

I. Exudative type.

1. Erythematous eczema.
2. Papular eczema.
3. Vesicular eczema.
4. Weeping and crusted eczema.
5. Scaling eczema.

II. Epidermal Hypertrophic type.

1. Verrucous.
2. Craquelé.
3. Squamous.

III. Dermal Hypertrophic type.

1. Lichenified.
2. Elephantiasic.

IV. Dermal Atrophic type.



It is to be emphasized, however, that these types are not as a rule isolated. Thus, papular and vesicular forms with or without crusting or scaling, must have an erythematous base, while an erythematous eczema which does not pass beyond this stage cannot be recognized clinically, for there are countless erythemas all alike in their appearance, which have nothing to do with eczema. Only such conditions can be called eczema in which at least are present papules or vesicles, or their end products, crusting, scaling, lichenification, epidermal hypertrophy and dermal hypertrophy or atrophy. It is not a matter of great importance to attempt microscopic distinctions between acute eczema and the exudative stage of subacute or chronic eczema. Possibly in the latter there may be evidences of chronicity such as lichenification, elephantiasis, scaling and the like, in addition to the exudative phenomena, but even in the oldest eczemas some vesicles, however minute, are found. It will therefore perhaps be simpler to confine descriptions to the following types:

1. Erythemato-papulo-vesicular eczema, acute and chronic.
2. Weeping and crusted eczema, acute and chronic.
3. Scaling eczema, acute and chronic; and chronic hypertrophic forms, *i.e.*, verrucous, craquelé and squamous.
4. Hypertrophic eczema. Lichenified and elephantiasic forms.
5. Atrophic eczema.

#### ERYTHEMATO-PAPULO-VESSICULAR ECZEMA OR DERMATITIS:

(Figs. 1, 2, 4 and 5).

The element of erythema in eczema, as in all other dermatoses is due to vascular dilatation. The formation of papules has a somewhat wider significance. In general, it is due to acanthosis in the areas about to become vesicular (Fig. 4), but clinical vesiculation does not absolutely have to occur. From five to ten pegs are included in the process, and the papule is rarely due to an infiltration such as characterizes prurigo, nor is it urticarial, although at times some of the transitory papular lesions certainly resemble tiny wheals. There are, without doubt, transitional lesions from the eczema papule to the wheal on the one hand, and on the other to the prurigo papule. Both of these lesions, too, commonly become vesicular. It is impossible to draw the line too fine, but in the eczema papule usually spongiosis, *altération cavitaire* and mature

vesiculation are present (Figs. 1, 2 and 5). In prurigo, this is not usually the case, unless it becomes eczematized in the sense of Besnier.

The vesicle is the important feature of this stage of eczema. Isolated vesicles are rarely found. In general they are numerous (Fig. 2), but neither confluent nor multilocular, although they may be so crowded together that they, with their separating walls, give an impression of being many chambered. They are found either at the level of the suprapapillary (Figs. 1 and 2) rete or above, many having become flattened in the scale or crust (Fig. 3).

The genesis of the vesicle depends upon œdema. The cause of the œdema is another problem entirely, but it seems to be due to a serotaxis, in response, Unna<sup>15</sup> believes, to the alleged eczematogenic micrococcus. To my mind, however, any external irritant is capable of exerting such an influence. Unna maintains that the epithelial œdema is intercellular; Leloir that it is intracellular; while Darier<sup>16</sup> states that "the matter is not so simple and the two methods of formation are frequently combined" (Figs. 1 and 2). The mechanism of vesicle formation has been described in the first chapter of this work, but may be briefly reviewed. *Altération cavitaire* (CHAPTER I., Fig. 4) begins as an œdema about the nucleus of a malpighian cell. As the œdema increases the cytoplasm gradually becomes absorbed, the cell swells and rounds out, and finally the nucleus is crowded aside. (CHAPTER I., Fig. 2, Cell a.). A group of these cells survive among such of their fellows as disintegrate more rapidly and become part of the contents of a space formed by the disappearance of the degenerated cells. The survivors float in the vesicle cavity as balloons. Spongiosis, or interstitial œdema, also forms vesicles in a not unlike manner. The widening intercellular spaces cause a pressure atrophy of some cells. These in disintegrating leave a localized space in which surviving cells have rounded out as balloons. Occasionally, a sequestrum of spongioid tissue is found within a vesicle. As a matter of fact *altération cavitaire* and the spongy state are seen side by side in the same field (Figs. 1, 2 and 5), and neither process is more suggestive of eczema than the other.

Vesicles when low in the rete are usually spherical, their limiting wall consisting of rete cells (Fig. 2) flattened, and containing flattened nuclei, so that the latter seem to form a halo about the aperture. The contents of the vesicles are fibrin, serum, ballooned rete cells, or a mass of spongioid tissue, pus cells and bacteria due to secondary invasion. When the vesicles approach the surface they tend to be more lenticular,

contain more pus cells, fewer ballooned and spongy cells, and are covered by a parakeratotic roof (Figs. 1, 3 and 9). When the rete in which the vesicle had developed has become stratum corneum, the vesicle is flat (Fig. 3) discoid, containing clouded fibrin, bacteria, leucocytes and cell detritus. At times, these almost lie in horizontal bands as in Pautrier's cases (Figs. 3 and 9) or in no especial order.

The epiderm about the vessels is acanthotic, spongioid and contains isolated cells undergoing cavernous change. The stratum corneum in the affected area remains nucleated (Figs. 1 to 4) and the entire epiderm is invaded with wandering pus cells which may be traced back to the papillary body. Whether the process is going on in a field of acute or chronic eczema (Fig. 5) the picture, so far as the vesicles are concerned, is about the same.

The papillæ are œdematous to a high degree (Figs. 1 to 5). Separation of the collagen fibres is marked, and in their meshes lie lymphocytes and dilated blood and lymph vessels, the endothelial cells of which are swollen and the perithelial cells of which are proliferating (Figs. 1, 2 and 5). A few fibroblasts and mast cells are found, but no plasma cells. Thus, an infiltration exists which is dense as far down as the subpapillary plexuses. Below this, even down to, but not including the subcutaneous tissue, the vessels are dilated and engorged, the endothelium swollen and the perivascular spaces slightly infiltrated; but there is no dense cell deposit. At the most the collagen appears a trifle glassy. Otherwise, no changes are found either in the fibrous, connective or elastic tissue, or in the organs of the skin.

The characteristics of eczema and dermatitis in this stage are as follows:

1. Vesicles are present at all levels from the suprapapillary rete up.
2. They are formed by intercellular (interstitial) and intracellular (parenchymatous) œdema.
3. They contain serum, fibrin, degenerated rete cells, masses of spongioid tissue and pus cells in varying arrangement.
4. They flatten as the epidermis rises.
5. They are surrounded by a flat celled wall.
6. They lie in spongioid, œdematous rete containing cells showing *altération cavitaire* and wandering pus cells.
7. The pegs in the involved areas are acanthotic and the suprapapillary rete is thickened.
8. The stratum corneum nearby is parakeratotic.

9. The neighboring corneum shows the changes of an exudative inflammation.

#### WEeping AND CRUSTED ECZEMA:

(Figs. 7, 8 and 9).

Crusting is produced in one of, or in a combination of several ways, according to whether the eczema is vesicular or squamous. In vesicular eczema rupture (Figs. 7 and 8) of the vesicles with discharge and subsequent drying of their contents produces crusts. Another way in which vesicles crust is by desiccation without rupture, after they have reached the surface in the normal process of upgrowth of the epidermis (Figs. 1 and 9). In squamous eczema the hyperkeratotic scale offers very little resistance to the discharge or seeping of serum if the rete below is spongy (Fig. 8). If it is not very spongy there is no such deposit of moisture. The serum raises the scale, dries below it, and underneath this a new parakeratotic scale develops, only to be lifted off again by a subsequent flow of serum. Should the exudation be profuse no scale forms at all, but there is a constant crusting, the crust being very brittle and easily washed away. When the eczema is vesicular and squamous, both types of crusting are found.

The composition of the crusts varies according to the underlying process. In vesicular (Figs. 1, 8 and 9) eczema the crusts are small and numerous corresponding to the ruptured or outgrown vesicles. They are made up of clotted serum, or serum and erythrocytes with fibrin, pus cells and bacteria, as well as rete cells, detritus, and exfoliated or cedematous portions of the stratum corneum. In squamous eczema with serous saturation—so-called eczema madidans—the crust consists of pure serum, serum and blood, or both admixed with fibrin. At times, as already suggested, alternating layers of crust and scales are found. In vesiculoso-squamous eczema both types of crusting exist side by side (Fig. 8).

Below the crust the epiderm is spongioid or vesicular, or both (Fig. 8). Parakeratosis is found wherever an attempt at keratinization occurs. Mitoses are present in the germinative layer. The epiderm is thick with pus cells and the pegs are principally acanthotic. Both blood and lymph vessels throughout the corium are dilated, and in the upper levels a dense deposit of lymphocytes is found, partly surrounding and partly independent of the vessels. No change is to be noted in the collagen save oedema. The elastic tissue and skin organs are normal. The infiltration



extends below the subpapillary plexuses and consists not only of lymphocytes, but a few plasma and many mast cells.

The features of this stage of eczema are:

1. Crusts form by rupture of vesicles, upgrowth of vesicles, or extravasation of serum below the parakeratotic scales.
2. A combination of these various forms.
3. Vesiculation, spongiosis and acanthosis.
4. The presence in the corium of exudative inflammation in a higher degree than seen in the vesicular stage.
5. The vesicular origin of crusts in acute eczema and the spongy origin in chronic. (This rule is not inflexible.)

#### SCALING ECZEMA:

(Acute and Chronic; Chronic Hypertrophic Forms, *i.e.*, verrucous, craquelé):

In the scaling eczemas (Figs. 3 and 6) two main types are to be distinguished,—the simple and the hypertrophic. Among the former being eczema craquelé and the squamous stage of any acute or chronic eczema; of the latter there are the verrucous and tylotic types to be recognized. Roughly speaking, all depend upon the presence of parakeratosis surmounting a more or less spongy and acanthotic epiderm. To speak of acute scaling eczema is perhaps a misnomer, and scaling is actually a step in the evolution of the disease, or rather the beginning of its involution. It is the waning stage of a spent inflammation. Under the microscope, the scale is discerned as a parakeratotic structure over a still acanthotic epiderm, showing a mild degree of interstitial œdema, a few parenchymatously swollen cells, or even small vesicles, while in the corium are slight vascular congestion and perivascular infiltration. At any moment, however, a recrudescence may occur in such a scaling spot, and the eczema runs its course anew. In this event, the relative degree of acanthosis, parakeratosis and interstitial œdema with vesiculation increases, and the picture once more becomes that of acute eczema.

Chronic scaling eczema is the product of a sustained irritation leading to protracted interstitial œdema in the epidermis and congestion in the papillary body. The result of these is a hasty proliferation of incompletely keratinized nucleated corneal cells. In other words, a chronic parakeratosis characterizes this stage of the disease. Microscopically, the following features stand out. The corneal layer consists of flaky,

nucleated cells. The stratum granulosum is normal but slightly thickened, the suprapapillary rete is interstitially and to some extent parenchymatously œdematous, as are also the pegs which are increased in length and breadth. Very few migrating leucocytes are in the epiderm, and the germinative layer is actively proliferating. In the papillary body and corium, the vascular changes and infiltration usual to eczema are found. Squamous eczema may involute completely, may weep with or without vesicle formation, may become lichenified, or persist indefinitely as a scaling dermatosis. Should complete involution take place, the œdema and congestion diminish, the acanthosis subsides and the incompletely keratinized cells gradually are replaced by properly matured ones. In other words, the skin again becomes normal. Weeping without the formation of vesicles takes place directly by exudation of serum from the dilated intercellular spaces, the flow of which meets no resistance by the parakeratotic scale. This process, as well as that of weeping from ruptured vesicles has already been mentioned in detail in connection with the phenomenon of crusting. When squamous eczema becomes lichenified it does so in accordance with principles which will be explained below, and microscopically it looks like the secondary lichenification already described. (CHAPTER VII.)

The tylotic form of eczema depends upon an extreme degree of parakeratosis with a relatively marked acanthosis and spongiosis. Eczema verrucosum is misnamed. It depends more upon a proliferation of papillæ than upon acanthosis and would better be called eczema papillomatosum. The papillæ proliferate, are œdematous and become crowded together in a patch, and covered by not markedly thickened, but spongy and parakeratotic epiderm. Eczema craquelé simply shows the changes of the simple squamous lesion.

#### ECZEMA WITH DERMAL HYPERTROPHY, OR HYPERPLASIA:

There are two varieties of this type of eczema, the lichenified and elephantiasic. Properly speaking, verrucous eczema belongs rather in this group than in that of epidermal hypertrophy, for, as has been stated, the process which clinically is verrucous, microscopically is seen to be caused by a swelling of the papillæ. Thus it is, in effect, an advanced stage of lichenification. (See CHAPTER VII.) Lichenification following eczema is identical with lichenification secondary to any other

dermatosis, save that occasionally the interstitial œdema increases and a recurrence of vesiculation takes place. In this event the picture is presented of a chronic vesicular eczema with excessive acanthosis and papillary hypertrophy.

The elephantiasic (Figs. 10 and 11) form usually is limited to the lower extremities, scrotum or vulva, and the changes seen are not primarily due to eczema. Indeed, it is probable enough that the latter is entirely due to the lymph or blood vessel disturbance producing the elephantiasis. Without entering into the mechanics of this question, the histological features seen are chiefly confined to the papillary body and corium. Hypertrophy and hyperplasia of the connective tissue, blood and lymph vessels, are present, and there is proliferation of connective tissue cells (Fig. 10). The vessels throughout the tissue from the papillæ to the subcutaneous fat are dilated, their endothelium swollen, the perithelium of some proliferating, of others normal. Some of the vessels are filled with erythrocytes, others are empty, and the dilated lymphatics are filled with and surrounded by lymphocytes (Fig. 11). The vessels are cut transversely, obliquely or longitudinally, creating a great array of figures, and in size they vary from bare perceptibility to huge vascular lakes (Figs. 10 and 11). The collagen about them is swollen, and fine or coarse bundles of fibres include in their warp and woof the various dilated vessels and the infiltration. The latter consists mainly of lymphocytes and many mast cells, and is dense in some areas and slight in others. A universal proliferation of fixed connective tissue cells is discernible (Fig. 10), and fibroblasts are present in the perivascular infiltration. The infiltration is endolymphatic, perilymphatic or perivascular. In the first type only lymphocytes are found, in the other two, the lymphocytes, mast cells, fixed connective tissue cells and fibroblasts as already mentioned.

In extreme cases cysts are formed (Fig 10), chiefly in the papillary body. These replace the latter, crowd aside the pegs which seem to clutch the cystic space, as talons would grasp a sphere. The cysts are probably formed by extreme lymphatic dilatation. They are filled with fibrin and lymphocytes and remotely resemble the appearance of lymphangionia circumscriptum multiplex. In the epidermis are found interstitial œdema, acanthosis and parakeratosis with vesicles at times. The picture in general, however, is usually that of a chronic scaling eczema.

## GENERAL REMARKS.

When eczema becomes infected it develops features resembling impetigo. Pus cocci are found in the crusts (Fig. 9), or even vesicles. In fissured eczema the microscopic features of the primary disease are combined with those of a loss of epidermis, the rhagades thus formed exposing the papillary body. Crusting (Figs. 8 and 9) appears at the site of epidermal denudation. Fissures are observed only in the lichenified and chronic squamous eczemas. Ulcers, with their ordinary histological characteristics develop in chronic eczema, chiefly on the legs. In intertriginous eczema, particularly in people who perspire profusely, the parakeratotic epidermis is often washed off, or eroded, so that microscopically the spongy rete is seen, and little or no nucleated corneal layer. Atrophic stages simply exhibit a thin (Fig. 12) epiderm which is slightly œdematous and scaly. The cutis resembles that in other forms.

## DIFFERENTIAL DIAGNOSIS.

Popular eczema must be differentiated from prurigo and acute lichen planus; vesicular eczema from dermatitis herpetiformis, vesicular ringworm, Ormsby's fungous eczemas, pompholyx, and suppurative folliculitis; squamous eczema in patches from psoriasis, seborrhœa, parapsoriasis and pityriasis rosea; and diffuse squamous eczema from the erythrodermias. If the positive characteristics of parakeratosis, spongiosis and *altération cartilagine* and vesiculation be present in a given lesion, it is probably eczema. In prurigo, the infiltration is more nodular than in eczema. In lichen planus, the picture is definite and nothing like that seen in an eczema papule (CHAPTER V). The vesicles in herpes and dermatitis herpetiformis are multilocular as a rule, and no spongiosis and parakeratosis are visible. These questions, however, with those connected with pompholyx, suppurative folliculitis, and ringworm will be dealt with in detail in subsequent chapters. In psoriasis, there are hyperkeratosis and slight parakeratosis instead of parakeratosis alone; Munro's abscesses, but no vesicles; no, or slight acanthosis of the suprapapillary rete and no spongiosis; and lengthening, rather than lengthening and broadening, of the pegs. In parapsoriasis, thinning rather than thickening of the suprapapillary rete is present, and there are found irregular elongation of the pegs, regional obliteration of the basal layer, and a more or less focal infiltration in



the papillary body, but no vesicles, spongiosis, marked parakeratosis or general acanthosis. In seborrhœa, there is more hyperkeratosis and the acanthosis is more irregular than in eczema, while the fat is increased rather than decreased. It is difficult to distinguish pityriasis rosea from eczema, except that in the former the vesicles are prevailingly smaller, there is no parakeratosis and the acanthosis is less marked.

## REFERENCES.

- <sup>1</sup>HEIMANN. A Critical Review of Eczema and Dermatitis. *Jour. Cutan. Dis.*, xxxiv, iv, p. 259.
- <sup>2</sup>KULISCH. Sind die durch Canthariden und Crotonöl hervorgerufene Entzündungen der Haut Eczeme? *Monatsh. f. prakt. Dermat.*, 1893, xvii, p. 1.
- <sup>3</sup>DARIER. Eczématides. *Précis de Dermat.* Paris, 1909, p. 72.
- <sup>4</sup>ENGMAN. An Acute Infectious Eczematoid Dermatitis. *Amer. Med.*, 1902, iv, p. 20.
- <sup>5</sup>UNNA. Histopathologie. Berlin, 1894, p. 194.
- <sup>6</sup>BLOCH, I. Unnas Lehren. Berlin, 1908, p. 434.
- <sup>7</sup>BROCQ, PAUTRIER ET AYRIGNAC. Les caractéristiques symptomatiques, histologiques et biochimiques de l'eczéma papulo-vesiculeux. *Ann. de dermat. et de syph.*, 1911, p. 525.
- <sup>8</sup>BROCQ. Traité élément. de la dermat. prat. Paris, 1907, ii, p. 81.
- <sup>9</sup>BESNIER. Prat. dermat. Paris, 1901, ii, p. 110.
- <sup>10</sup>EHRMANN UND FICK. Histopathologie. Wien, 1906, p. 17.
- <sup>11</sup>ORMSEY. Diseases of the Skin. Philadelphia, 1915, p. 204.
- <sup>12</sup>WALKER. Introduction to Dermatology. New York, 1899, p. 89.
- <sup>13</sup>JARISCH. Die Hautkrankheiten. Wien, 1908, p. 312.
- <sup>14</sup>JOHNSTON. Eczema: A Sketch of its Process and Management. *N. Y. Med. Jour.*, Oct. 20, 1906.
- <sup>15</sup>UNNA. Eczem. Mrazeks Handbuch. Wien, 1905, ii, p. 205.
- <sup>16</sup>DARIER. Anatomie pathologique générale. Prat. dermat. Paris, 1900, i, p. 90.

## DESCRIPTION OF PLATES.

- FIG. 1. Vesicle of acute dermatitis or eczema. Zeiss, obj. 8 mm., oc. 4. Note structure of vesicle, pus cells, degenerated epidermal cells above, alterations in rete including interstitial and parenchymatous œdema, parakeratosis to left of vesicle, acanthosis, and the inflammatory changes in the pars papillaris and below. Fordyce and MacKee.
- FIG. 2. Vesicles. From the collection of Dr. Fordyce. Zeiss, obj. 8 mm., oc. 4. Note multiplicity of the vesicles, their clearer contents than in Fig. 1, the œdema in the epidermis and cutis. Particularly observe flattening of the rete cells at the lower left-hand segment of the large vesicle.
- FIG. 3. Diagram showing scale formation.
- a. Scale.
  - b. Parakeratosis.
  - c. Flattened vesicle in parakeratotic area.
  - d. Acanthotic rete.
  - e. Young vesicles in rete.

FIG. 4. Diagram of papular dermatitis.

- a. Elevated scale.
- b. Parakeratosis.
- c. Vesicles.
- d. Congested, infiltrated papillæ.

FIG. 5. Chronic Vesicles. From the collection of Dr. Fordyce. Spencer  $\frac{1}{4}$  inch, Zeiss, oc. 4. Note multiplicity of lesions and general œdema.

FIG. 6. Chronic squamous dermatitis. From the collection of Dr. Fordyce. Zeiss, obj. 8 mm., oc. 4. Note hyper and parakeratotic scale, interstitial and parenchymatous œdema in rete, with vesicle in centre, and group of wandering cells to right of field below knuckle of stratum granulosum. The latter varies in thickness and is discontinuous, as may also be seen in diagrams.

FIG. 7. Diagram of crust formation from vesicles alone.

- a. Crust.
  - b. Vesicles broken through corneous layer.
  - c. Points of rupture.
- (Arrows indicate direction of flow of vesicle contents.)

FIG. 8. Diagram of crust formation by seeping of fluid from spongy epiderm as well as ruptured vesicles.

- a. Crust.
  - b. Exfoliated epidermis in crust.
  - c. Serum emerging through break in epiderm.
  - d. Serum under stratum corneum which has lifted latter up.
  - e. Rete cells separated by interstitial œdema: serum exuding from dilated spaces.
  - f. Serum from ruptured vesicle.
- (Arrows as in Fig. 7.)

FIG. 9. Diagram showing composition of crust.

- a. Fat.
- b. Dried serum.
- c. Erythrocytes.
- d. Cocci.
- e. Stratum corneum.
- f. Parakeratotic islands.
- g. Flat vesicle in crust.
- h. Vesicle in rete.
- i. Wandering cells entering rete.

FIG. 10. Elephantiasis scroti. Microscopic drawing. Zeiss obj. 8 mm., oc. 4. Showing lymph cysts below acanthotic epiderm, œdematous collagen, infiltration and increase of fibroblasts. Low down in cutis dilated lymphatics.

FIG. 11. Elephantiasis scroti. Microscopic drawing. Zeiss obj. 8 mm., oc. 4. To the left a thrombosed vessel. To the right infiltration about vessel. Note the œdema of collagen.

FIG. 12. Atrophic stage of dermatitis. Microscopic drawing. Zeiss, obj. 8 mm., oc. 4. Note thinning of epiderm and inflammatory signs in cutis.

PLATE XVIII.—To Illustrate Article on Eczema and Dermatitis,  
by WALTER J. HEIMANN, M.D.

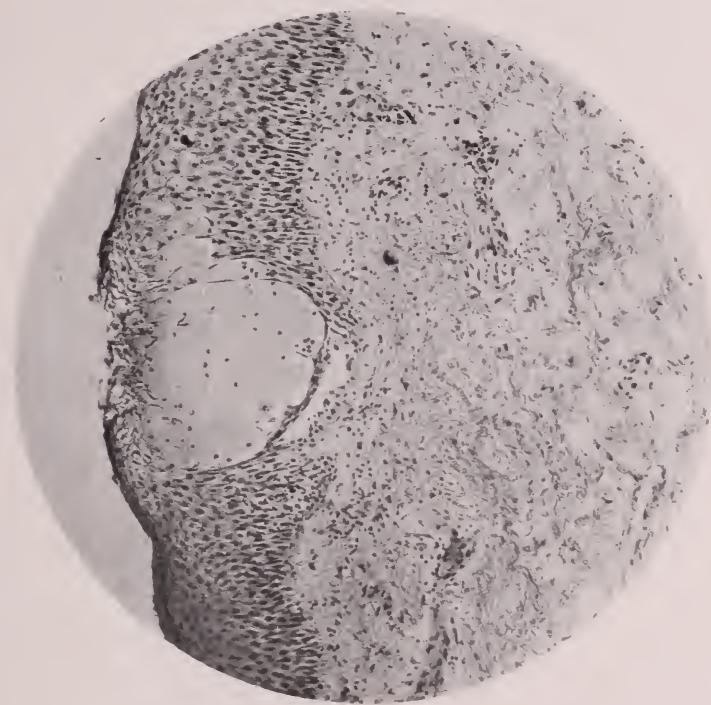


FIG. 2.

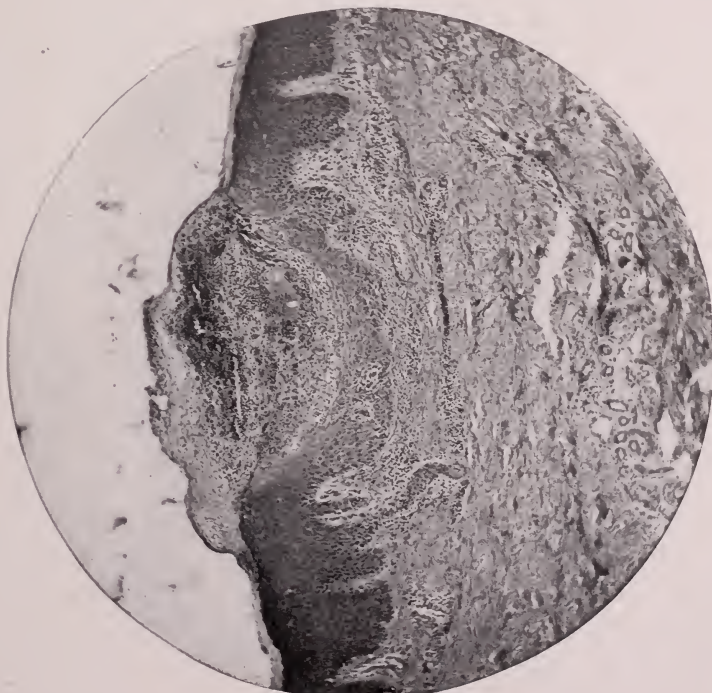


FIG. 1.

PLATE XIX.—To Illustrate Article on Eczema and Dermatitis,  
by WALTER J. HEIMANN, M.D.

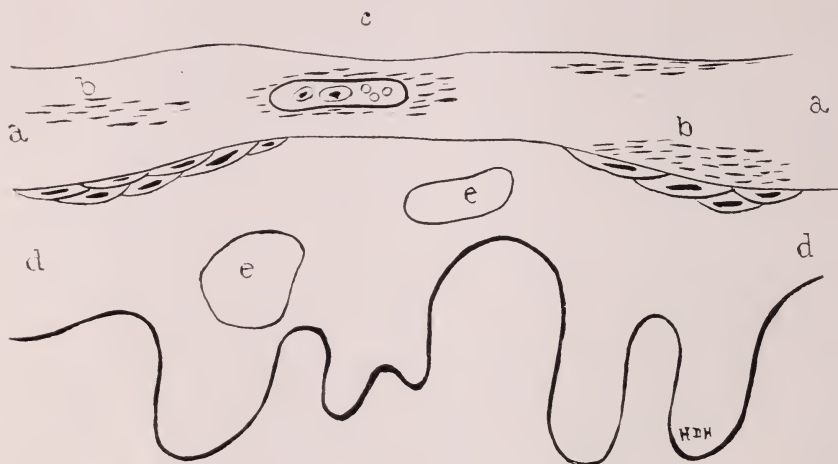


FIG. 3.

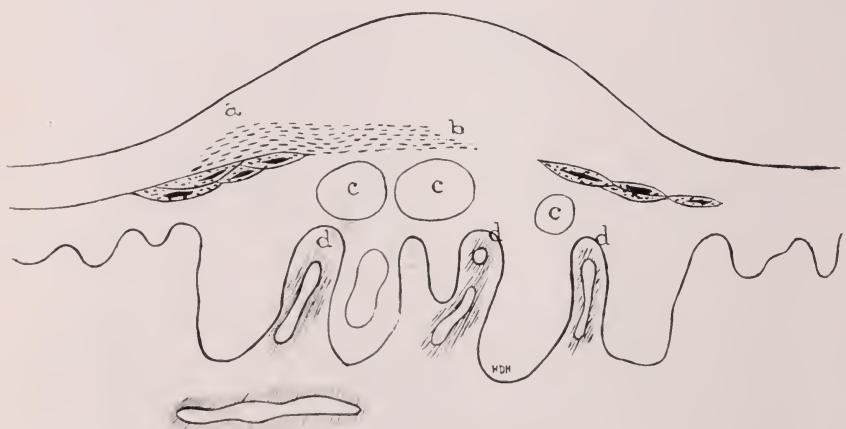


FIG. 4.



PLATE XX.—To Illustrate Article on Eczema and Dermatitis,  
by WALTER J. HEIMANN, M.D.



FIG. 6.

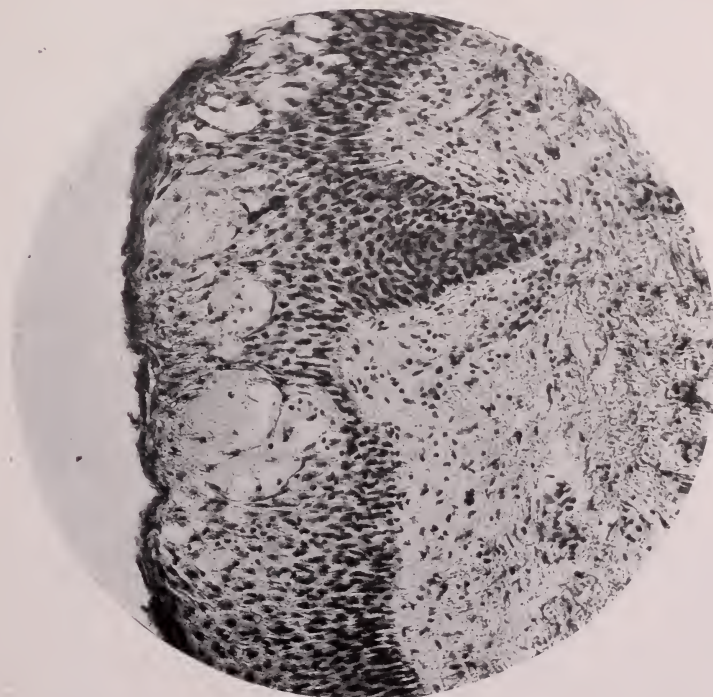


FIG. 5.

PLATE XXI.—To Illustrate Article on Eczema and Dermatitis,  
by WALTER J. HEIMANN, M.D.

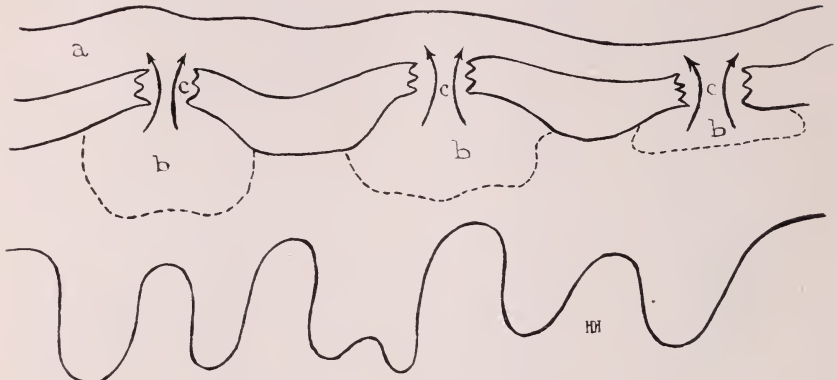


FIG. 7.

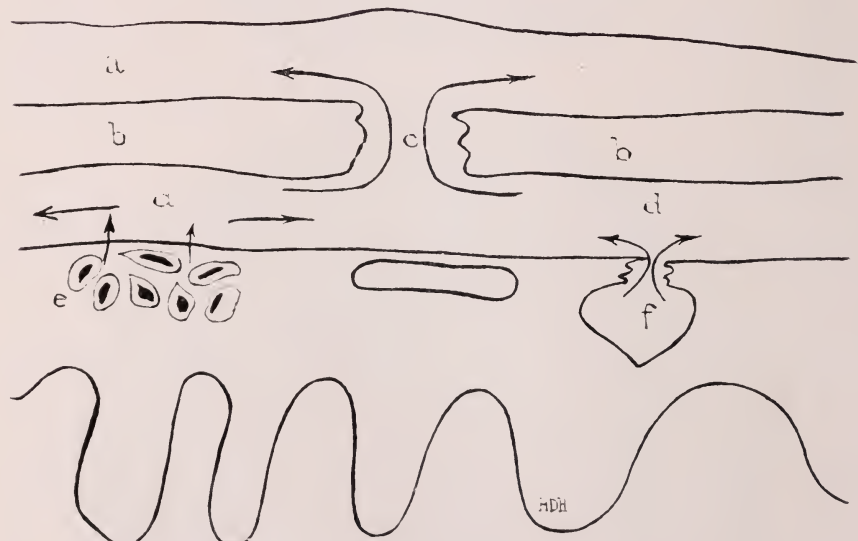


FIG. 8.

PLATE XXII.—To Illustrate Article on Eczema and Dermatitis,  
by WALTER J. HEIMANN, M.D.

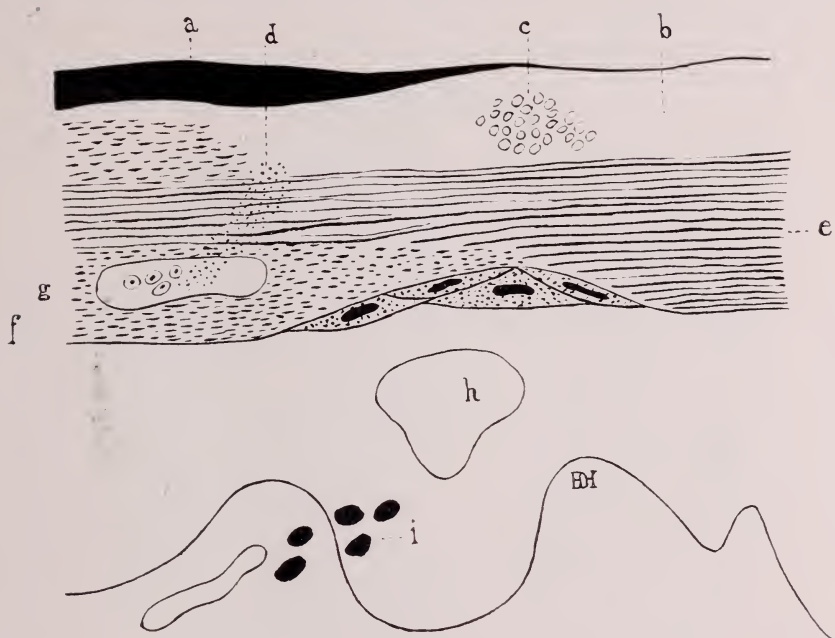


FIG. 9.

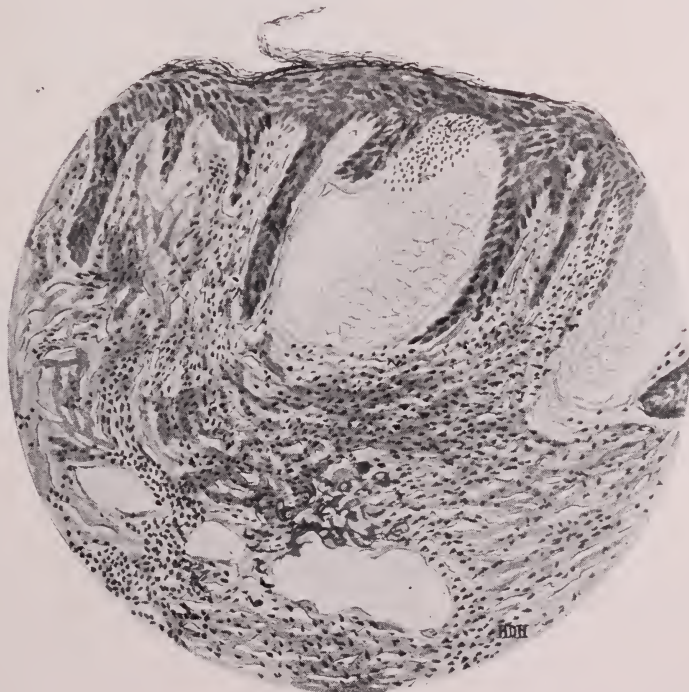


FIG. 10.



PLATE XXIII.—To Illustrate Article on Eczema and Dermatitis,  
by WALTER J. HEIMANN, M.D.

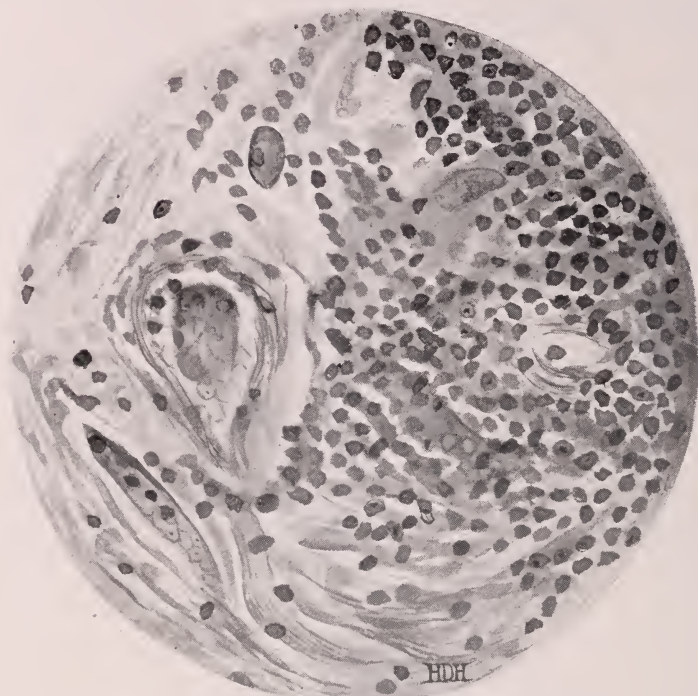


FIG. 11.

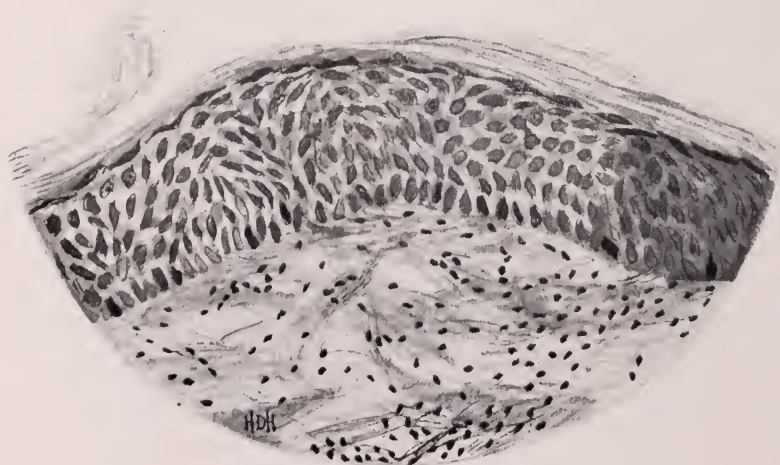


FIG. 12.



## SOCIETY TRANSACTIONS

## PHILADELPHIA DERMATOLOGICAL SOCIETY.

Regular Meeting, November 20th, 1916.

FRANK CROZER KNOWLES, M.D., *Chairman*.

BLASTOMYCOSIS. Presented by DR. HARTZELL.

Male, white, aged 23. The patient stated that five years ago he sprained his left ankle and rubbed it very vigorously with some form of liniment. This history, however, had very little bearing on the condition, which extended from just below the ankle of the left leg to a few inches below the knee. The eruption consisted of eight or ten slightly elevated lesions, varying in size from a quarter of a dollar to a silver dollar, and some few of them were composed of an aggregation of miliary abscesses. There was considerable scarring and a marked tendency to hæmorrhage where the slightest trauma occurred. The speaker had excised a piece of tissue and found a few of the blastomyces.

DISCUSSION.

DR. GASKILL expressed surprise at the wonderful improvement that had taken place in this eruption, as he said that he had seen it in September, during his service at the Philadelphia General Hospital. The lesions had flattened out to a considerable extent and there were fewer of the abscesses.

DR. HARTZELL replied that he was convinced that the patient was fully fifty per cent. better, having been under potassium iodide treatment for the past three weeks.

DR. STELWAGON asked where the patient was born and upon being informed in Mississippi, commented upon the comparative frequency with which this disease occurred in the Mississippi Valley Basin. The patient not only was born in Mississippi, but had contracted the disease there, having been north for the past two years only.

SYCOSIS VULGARIS, ONYCHIA AND PROBABLE BLASTOMYCOSIS. Presented by DR. HARTZELL.

Male, white, aged 52. The patient stated that he had had sycosis vulgaris for the past fifteen years. The entire bearded region was involved and there was considerable scarring, partly the result of previous treatment, as he said that he had used many escharotics, including copper sulphate. There was a great amount of brownish pigmentation mingled with the areas of scar tissue. The nails of both hands were very much thickened, almost black in color and very much eroded. This nail condition had existed for about two years. On the dorsal aspect of the left wrist as an exaggeration of deep nodules, irregularly grouped, covering an area not larger than the size of a silver dollar, with the individual nodules made up of many small abscesses. The color was distinctly purplish and had only been present for the past eight weeks. The patient had only been seen for the first time on the day of presentation and

no microscopical examination had been performed, and while blastomycosis was suspected, there was some doubt expressed and the suggestion of a pyodermic infection was to be considered.

AN EXTENSIVE CASE OF PSORIASIS OF PALMS AND SOLES. Presented by DR. HARTZELL.

Male, white, aged 43. This patient presented two unusual features in this case of psoriasis which began nine years ago, as a small spot on the leg had progressed slowly and continuously, with no periods of exacerbation or remission. At no time had he noticed any amelioration of the condition, the progress having been slow and steady. There were very few lesions over the trunk, but the scalp was entirely covered with thick scaling lesions, as were the lower legs. Where the eruption reached the lateral aspects of the feet, there was sharp margination; there was marked induration and the entire surface, especially the ends of the toes, was covered with a thick, laminated, grayish scale. On the hands this same feature was even more marked and still more so over the knuckles and the tops of the fingers, around the nails—a typical psoriasis ostreacea. The inflammatory process had been so marked on the hands that he had completely lost the use of one or more of his fingers.

LICHEN PLANUS ANNULARIS. Presented by DR. SCHAMBERG.

This patient was shown by the speaker at the October meeting, when no definite diagnosis was made, though several were offered. A brief résumé of the history was that the patient first noticed the eruption, which he assumed to be "urticarial," on September 15th. Later, there was a "generalized papular eruption which was diagnosed as lichen planus. He came under the care of the speaker the first of October, 1916, and the entire body was covered with a uniformly distributed, papulo-erythematous eruption. Here and there were scattered small vesicles which would remain only a day or two and then be absorbed. \* \* \* \* Thirty-six hours before the time of presentation, he developed bullæ in the groin and on presentation there were probably twenty bullæ on each of the genito-crural folds, varying in size from one-half inch to an inch. In the month that had intervened he has been in a private room in a hospital and the entire character of the lesions had changed,—now showing its definite nature. The body was still covered with an inflammatory eruption which was distinctly shiny in appearance, with individual lesions, irregular in outline and many with central umbilication. The configuration in this case was most unusual as there were not a few of the lesions occurring in circles, but literally hundreds of these well defined circles, most of which were small, but some attained the size of a ten-cent piece. Under Fowler's solution, the blebs had entirely disappeared and the itching had almost entirely subsided under mild local treatment. This patient was first seen by a general practitioner in another city of this State and it will be noted that he made a diagnosis of lichen planus. Three weeks later, when the patient was presented before this Society at its October meeting, no one for a moment considered the diagnosis of lichen planus possible. The original diagnosis, however, was correct and probably on account of energetic treatment, an eczematous condition had been superimposed.

CASE FOR DIAGNOSIS. Presented by DR. SCHAMBERG.

Female, colored, aged eight months. Three days ago the mother noticed an eruption on the child's buttocks, which was distinctly lichenoid in appear-

ance. The creases were entirely free from the eruption, which was distinctly shiny in the large plaques, and there were a few isolated papules which did not possess this lichenoid appearance. The speaker said he had seen a similar condition in a child who had been taking bromides, but the mother of this patient denied either that she had been giving the child soothing syrups or that she had been taking any bromides herself.

ANNULAR PAPULAR SYPHILIS. Presented by DR. GASKILL.

Female, white, aged 24. Scattered over the face were fifteen or more distinct annular lesions, considerably elevated above the niveau of the skin. The largest lesion of all was directly in front of the right ear and was approximately three-quarters of an inch in diameter, and being the earliest lesion to appear, had lost, to some extent, its annular character, though the definite outline could still be seen. It had flattened down much more than the other lesions. The balance of them were situated around the mouth on both sides and varied in size from a quarter to three-eighths of an inch in diameter. Each ring was distinctly elevated, and while two or three of the lesions may have been in close proximity and even touch, they did not overlap and destroy the symmetry. On close examination, the majority of these circles were made up of small papules. The patient was first seen by the speaker ten days previously, on which occasion the patient had an erosion on the left nipple, about half an inch in diameter and which bore some resemblance to a chancre; but there was no induration and the patient was absolutely certain in her statements that it appeared after the eruption on her face, which statement has since been verified, and another lesion very similar to the other had appeared on the right nipple. Her body was examined very carefully, every other day, for a generalized eruption which finally appeared as a macular one on the arms and chest, on the day of presentation. The point of unusual interest in this case was not the annular type of the eruption occurring in a white woman (though this is more common in the negro), but that it should occur in that form on the face, three weeks before the generalized macular eruption made its appearance.

CONDYLOMATA. Presented by DR. GASKILL.

Male, white, aged 24. The patient stated that for the last five months he had had sores in the rectum and on the posterior surface of the scrotum. At time of presentation there were many distinctly outlined moist papules in this region, but on the scrotum each papule was a half-inch in diameter and was separated from its neighbor by distinctly excoriated tissue. At one place there was a lesion which looked as though it might have been a chancre. While the patient denied any unnatural practices, yet his manner was not at all convincing.

SECONDARY SYPHILIS. Presented by DR. SCHAMBERG.

Male, white, aged 26. The patient presented a generalized eruption, maculopapular in appearance, discrete, purplish rather than copperish in tone, sharply defined and very closely resembling a lichen planus. In a few places, however, there was distinct folliculation. The patient had had the chancre about six weeks ago and there was still considerable phimosis. There was marked adenopathy and other concomitant symptoms were present.

HENRY K. GASKILL,  
*Secretary.*

# REVIEW OF DERMATOLOGY AND SYPHILIS.

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## PRESSE MÉDICALE.

(Oct. 11, 1915, No. 48.)

Abstracted by PAUL E. BECHET, M.D.

### A SIMPLIFICATION OF THE TECHNIQUE OF INTRAVENOUS INJECTIONS OF CONCENTRATED NEOSALVARSAN SOLUTIONS. RAVAUT, p. 398.

Ravaut boils for 15 minutes, in as clean a water as possible, a 2 cc. glass syringe, a needle, and some cotton. The cotton is used as a filtering agent in aspirating the necessary quantity of water, which is 2 cc. After being allowed to cool, it is added drop by drop to the neosalvarsan in the ampule, and after thorough solution, reaspirated in the syringe. It is then very slowly injected into the vein.

(*Ibidem*, Jan. 13, 1916, No. 2.)

### ANTIVENEREAL PROPHYLAXIS BY CIVIL AND MILITARY AUTHORITIES. BALZER, p. 10.

Balzer mentions the very active prophylactic work done in Milan, at present a large military centre. It consisted of extensive distributions of printed instructions to the soldiers, medical conferences in the barracks, vigorous supervision and arrestation of clandestine prostitutes, with quarantine in contagious cases, and increased frequency in the examination of the inmates of tolerated houses of prostitution. Of 277 clandestine prostitutes arrested, 231 were suffering from active contagious venereal disease; the balance, while not being free from venereal disease, were not in the contagious stage and were allowed to go free. The medical examinations in the tolerated houses were done four times weekly, and at unexpected hours. No mention is made in the prophylactic propaganda, of the examination of the soldiers and the prevention of the infected ones from visiting the houses of prostitution under the pretext of sexual necessity; a thing which Balzar rightly states is as necessary as the examination of the prostitutes.



(*Ibidem*, Feb. 14, 1916, No. 9.)

# ECZEMATOID DERMATITIS FOLLOWING TRAUMA, FROM ABUSE OF ANTISEPTICS. SABOURAUD, p. 65.

Sabouraud calls attention to the frequency of eczematoid eruptions following repeated dressings with irritant antiseptics, such as hydrogen dioxide or tincture of iodine. Hospital orderlies frequently mistake the pustular dermatitis and eczema following the application of these irritants, as proof of added infection, and apply the causative irritants with added frequency and concentration, with resulting extensive weeping areas of eczema, at times involving the entire limb. The author believes that an active antiseptic capable of destroying pathogenic organisms without altering or otherwise affecting the epidermis, is possible. He suggests and highly recommends the following formula:

Sulphate of zinc, 4 gr.  
Sulphate of copper, 1 gr.  
Boiled distilled water, 1 litre.  
Camphorated alcohol, 5 gr.  
Tincture of safran, 0.50 centigr.

## ANNALES DES MALADIES VÉNÉRIENNES.

(January, 1916, xi, No. 1.)

Abstracted by PAUL E. BECHET, M.D.

### PATERNAL HEREDITARY SYPHILIS. GAUCHER, p. 1.

Gaucher relates the interesting case of a child born apparently healthy, who three weeks later, developed condylomata on the anal region and fissures on the mouth. The father had been syphilitic for three years, but free from symptoms for two years before marriage. The mother developed two chancres on the left nipple two months after parturition; axillary adenopathy and roseola appeared shortly after. The father at the time presented no contagious symptoms whatever. The author advances the novel theory that appendicitis is frequently a syphilitic manifestation. He found the Wassermann reaction positive in 43 of 100 appendectomy cases. He believes that the majority of the cases of appendicitis are of syphilitic origin, and that paternal syphilis is responsible for most of the cases of idiocy, epilepsy, strabismus, stammering, kyphoscoliorachitis, talipes, myopia, etc. Gaucher believes that a syphilitic should be treated immediately before marriage, even if the marriage occurs years after primary infection, and the disease has been thoroughly treated.

### HOW SYPHILIS IS STERILIZED BY ARSENOBENZOL. RETARDING AND AGGRAVATING ACTION OF ARSENOBENZOL ON SYPHILITIC ACCIDENTS. BRALEZ AND ARION, p. 7.

Bralez and Arion report a series of eight cases of syphilis in which arsenobenzol proved inefficient.

### THE AWAKENING OF LATENT SYPHILIS AND GONORRHOEA IN THE COURSE OF TREATMENT OF GUN SHOT WOUNDS. TOUSSAINT, p. 14.

Toussaint believes that the *Treponema pallidum* becomes more virulent by contact with the various pus organisms. He reports three cases of latent syphilis, in whom gun shot wounds refused to heal, and in which operation aggravated the symptoms. Two of the cases developed cerebrospinal symptoms, one of them ending fatally. He believes that in known syphilis, specific treatment should be instituted before active surgical measures are taken.

## GAZETTE MÉDICALE DE PARIS.

(October, 1916, lxxxvi, No. 97, p. 21.)

Abstracted by V. PARDO, M.D.

## ÆTIOLOGY OF HERPES IRIS. QUEYRAT AND PINARD.

The patient, an Italian youngster, had presented recurrent eruptions of erythema multiforme (herpes iris) since he was 15 years of age. The disease appeared at least twice a year and lasted from one week to a month. His past history revealed whooping cough, coxalgia and cervical adenitis. The intradermic tuberculin test was very strongly positive, while the controls remained unaltered. The authors believe in the tuberculous ætiology of erythema iris in this case.

RUSSKI JOORNAL KOJNIKH E VENERICHESKIKH  
BOLEZNEI.

(January and February, 1916, xxxi, Nos. 1 and 2.)

Abstracted by M. L. RAVITCH, M.D.

IS TRICHOPHYTON VIOLACEUM SABOURAUD A DISTINCT FORM OF  
TRICHOPHYTON? CHERNOGUBOV, p. 3.

We owe to Sabouraud much of our knowledge of the diseases caused by the various fungi or trichophyta. In the course of his investigations of these organisms Sabouraud has developed many methods for the staining and cultivation of the different types, thus leading to their classification and subdivision. With nearly all of them a similar picture is produced, though there may be minute clinical variations. However, there is one group which stands apart from the others in this respect, the trichophyton violaceum.

This fungus is rather easily distinguished from the other members of this group, clinically, morphologically and in cultural characteristics. It usually affects the hair of the scalp, the face and the nails, especially the last. Moreover, as far as we yet know, it is limited to man, attempts at animal inoculation having been unsuccessful. The majority of the affections of the finger nails are due to this organism, and by cutting back the dead nail a thin white membrane is disclosed, composed of epithelial cells and large numbers of the typical organism.

The incidence of infection with this organism varies greatly in different countries. It is very high in Russia. The author describes three cases similar to those recorded by Sabouraud.

## THE DIMINUTION OF SKIN RESISTANCE. Brocq, p. 13.

Bogrov, reviewing Brocq's article, says that the skin under normal conditions possesses a resisting power to different irritations, but at times and under certain conditions this resistance becomes weaker and may even yield to the irritation and become pathological. This diminution of resistance may affect the skin over the entire body or merely in a localized area; it may affect the entire skin, epithelium, cutis and hypoderm, or only one of the dermal layers. Again, this diminution of resistance may be inherited or acquired, permanent or temporary, may entirely disappear or else either persist in greater or lesser degree or recur at various intervals.

Skin eruptions observed during the diminution of resistance are numerous. Brocq classifies them in the following groups: (1) eruptions purely traumatic which are described as artificial eruptions from external causes; (2) erup-

tions assuming the form of classical dermatoses, which form a large group of the purely skin reactions.

Obscure as is the pathogenesis of skin eruptions developing from various intoxications, yet, granting the rôle played by anaphylaxis in some cases and various internal and external influences on the resistance of the skin in others, we must take into consideration affections of the kidneys, insufficient oxidation, gastrointestinal fermentation and altered function of various glands, particularly the thyroid, as undoubted ætiological factors in the dermatoses.

#### DERMATOSES DUE TO WAR INJURIES. BUTTE, p. 14.

Bogrov says that Butte observed many cases due to war injuries. These dermatoses were often persistent and slow to heal; even when healed they were apt to appear again. These dermatoses appear at various intervals after the primary injury has been healed. They can be divided into the following groups: (1) eczematoid dermatoses; (2) keratoderma; (3) erythrodermias and trophic skin derangement, and (4) pyodermitides; the appearance of the last is undoubtedly due to a weakened resistance of the skin. As to the treatment, all local irritation should be avoided; rest, cotton bandages, soothing lotions and powders, hot air, carbolized vaseline and zinc plaster are recommended.

#### PARAPSORIASIS, BROcq AND DERMATITIS PSORIASIFORMIS NODULARIS, JADASSOHN. HANAVA AND NAGAI, p. 17.

Zelenev, reviewing the articles of Hanava and Nagai, questions whether to group as one disease the parakeratosis variegata, Unna, dermatitis psoriasiformis nodularis. Jadassohn, pityriasis lichenoides chronica, Juliusberg, and erythrodermie pityriasique en plaques disséminées, Brocq, under the term applied by Török, "maculo-papular, scaly, disseminated erythroderma"; or as Brocq has termed it, "parapsoriasis"; or whether to classify them as separate entities, since so many authors have different views in regard to these diseases. However, all these groups with their various manifestations are closely allied to psoriasis. In Zelenev's opinion, the lichen group might be included in this class.

Two cases are described by the author. One of them stands nearer Rinke's case, pityriasis lichenoides chronica. Histologically, the changes found are analogous in both cases: parakeratosis, total absence of stratum granulosum, slight acanthosis, slight round cell infiltration, diminution of elastic fibres and thinning of the prickly layer. The author explains the distinct clinical differences in these two cases having identical histological changes as being due to difference in reaction in different individuals, to the same cause. The author concludes that it is advisable to use the term parapsoriasis in different psoriasis-like dermatoses.

#### BASEDOWISM IN A SYPHILITIC FAMILY. ZELENEV, p. 19.

There is no doubt that various anatomical and physiological changes in the thyroid gland may be the cause of many disorders attributed to different toxæmias. Although the chemical nature of the thyroid colloid is still unknown, yet it is established that the thyroid or its secretion has a profound influence on metabolism. Syphilitics have in their blood syphilitic toxins and a portion of these toxins may find their way into the thyroid gland, even though the latter contains an antisymphilitic agent, iodine. True, while the thyroid may be better able to combat the invasion of syphilis on account of its iodine contents, yet in time, sometimes very early, this resistance may be overcome.



Mauriac, Jullien, Engel-Reimers, Timopheev, and Poltavzev have observed thyroid enlargement in the early stage of syphilis. Paltavzev, a pupil of Zelenev, has made a thorough study of many syphilitics and has found specific enlargement of the thyroid gland without any cardiac changes. The same observation has been made by another pupil of his, Tschekin. In 1916, Penzoldt reported 3 cases of syphilis of the thyroid gland; specific medication influenced the improvement of the thyroid. Kocher, Mendel and Frankel have also reported similar cases. In 2 families Zelenev made the following observations: (a) on the one hand there was a true picture of Basedowism; (b) on the other, acquired and hereditary syphilis, and (c) the beneficial influence of specific treatment upon the subjective symptoms (general weakness, nervous irritation, dyspnoea, psychoses, etc.) and objective symptoms (the tumor, exophthalmos, rapid heart, etc.) were all very favorably influenced by antisymphilitic treatment.

ARSENOBENZOL, BILLOU, IN PLACE OF SALVARSAN AND NEOSALVARSAN. CHAPIN, p. 25.

Chapin claims that since the outbreak of the war he has been compelled to treat syphilis without the salvarsans as have so many other physicians in Russia. He claims that arsenobenzol, Billou, is as potent as the German preparations and in some respects safer, since the toxicity of this preparation is not as high as with the German preparations. Both arsenobenzol, Billou, and the galyl of Mouneyrat have been used in Russia with great success.

TABES ATAXICA AND TREATMENT OF POST-SYPHILITIC NERVOUS DISORDERS WITH MERCURY AND SALVARSAN. CHIRYEV, p. 26.

Chirjev, in 1912, protested against the promiscuous use of salvarsan, particularly by the intravenous route. The chief arguments against its use he based on the following points: (1) arsenic does not possess the ability to destroy syphilitic virus, unless a certain degree of concentration of arsenic in the blood of the patient was obtained; (2) the introduction of salvarsan in high concentrations, directly into the blood stream, is very destructive, particularly to the delicate blood vessels of the central nervous system, causing destruction of the capillaries and of the intima of the minute vessels, thus leading to blood effusion and numerous thrombi; in short, he claims, it produces a primary affection of the blood vessels of the brain, leading to an encephalitis hæmorrhagica, just as we see in chronic arsenical poisoning. Citing the works of Lebedev, "On the influence of salvarsan on the capillary vessels of rabbits." Chirjev advises that the circulatory blood system of the organism be spared as much as possible. The circulatory system is not a sewer into which one can introduce with impunity anything that does not cause the patient pain. Hyper- and hypotonic solutions may cause excessive destruction of erythrocytes with no subjective symptoms at the time, and the same is true of a great many drugs and chemicals. The author recommends mercury in treating syphilis; where the physician insists on using arsenic he pleads for its use *per os*, subcutaneously or intramuscularly, but not by intravenous injection.

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## BRITISH JOURNAL OF DERMATOLOGY.

(July-September, 1916.)

Abstracted by I. ROSEN, M.D.

THE RATIONALE AND PRACTICE OF CHEMOTHERAPY. J. E. R. McDONAGH, p. 173.



McDonagh asserts that the *Spirochæta pallida* is not the cause of syphilis, and that salvarsan does not cure syphilis.

In 1912 he discovered the *Leucocytozoon syphilidis*, the phases of which consist partly of lipoid-globulin molecules, which proved themselves to be more resistant to reagents than the lipoid-globulin molecules of the host's cells.

The parasites are killed by the lipoid-globulin molecules of the host by a chemico-physical process which the author calls adsorption. This adsorption is regulated by three factors: 1. The stereo-chemical molecular configuration of the adsorbed molecules. 2. The permeability of the adsorbed molecules. 3. The amount of active oxygen.

He explains the phenomena that follow the adsorption between the parasitic lipoid-globulin molecules on the one hand, and the lipoid globulin of the host on the other hand, and claims they are not the same in the body as occurs in the test tube.

He goes on to discuss natural and artificial protection, the rationale of chemotherapy, research in chemotherapy, practice of chemotherapy, etc.

Those interested in the subject will find it profitable to read the article in its entirety.

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## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(Feb. 12, 1916, lxvi, No. 7.)

Abstracted by WM. H. BAUGHMAN, M.D.

PELLAGRA: CAUSATION AND A METHOD OF TREATMENT. J. GOLDBERGER, p. 471.

Working on the theory that there is some feature of the diet of the poor which renders them more susceptible to pellagra than is the more well-to-do class, Goldberger investigated the rôle played by diet in the treatment, the prevention and the nature of pellagra, the investigations being carried on in institutions whose inmates could be kept under observation for relatively long periods. The results of his observations of the disease are that the elements necessary to the successful treatment of the condition are furnished by suitable proportions of fresh animal proteins and legumes, other measures employed being of secondary importance; and that recovery from an attack requires at least from three to four months of a "nutritious diet," this, however, not preventing a recurrence on returning to the faulty diet.

Studying the prevention of pellagra in similar institutions where there were large numbers of cases, he found that not only was there an entire disappearance of all symptoms and signs in all cases affected, after the addition of fresh animal proteins and legumes to the diet, but that there was a recurrence in only one case which justified the diagnosis of pellagra. These cases being under observation for at least a year, also furnished an apparent explanation of the tendency the disease has to recur each year at the same season, the diet being modified or changed according to the season.

For the investigation of the nature of the disease, eleven white adult males, this being a group apparently least susceptible, were placed under observation; living under similar conditions as control cases, except that the amount of work performed by them was not so great and that their personal surroundings were better; six of these men developed symptoms, including a typical dermatitis, which were diagnostic of pellagra, on excluding fresh

animal proteins and legumes from their diet, the control cases all remaining well.

The most important conclusion, from a practical standpoint, is that whatever may be the essential causative factor, it may be corrected by the addition of fresh animal protein and legumes in suitable proportions to the diet.

#### NEEDLESS SURGICAL OPERATIONS FROM FAILURE TO RECOGNIZE TABES DORSALIS. J. W. NURZUM, p. 482.

Of the one thousand cases of tabes studied, 8.7 per cent. had been operated on with negative findings. That the mistaken diagnoses had been based, to a large extent, on the presence of tabetic crises is evidenced by the fact that 65 per cent. of these cases gave a history of such symptoms; quite a large number having this as an early symptom. The most frequent diagnoses made were gastric-ulcer, gall-bladder disease and appendicitis. Particular attention is called to the necessity of excluding tabes in cases exhibiting paroxysmal attacks of vomiting, rheumatism, paræsthesias, arthropathies, bladder disturbances and fractures without physical violence.

#### ROUTINE WASSERMANN EXAMINATIONS OF FOUR THOUSAND HOS- PITAL PATIENTS. I. C. WALKER AND D. A. HALLER, p. 488.

A statistical summary of the findings in four thousand cases on whom the Wassermann test was made. Six hundred of these cases gave complete fixation, many of these were not considered to be syphilitic before the test was made. That 20 per cent. of the neurologic cases had positive tests emphasizes the importance of routine tests in all hospital cases and especially in neurologic patients.

#### DERMATITIS HERPETIFORMIS: REPORT OF SOME CASES TREATED WITH EMETIN. M. F. ENGMAN AND R. DAVIS, p. 492.

(*Ibidem*, Feb. 19, 1916, lxvi, No. 8.)

#### SYPHILIS OF THE STOMACH. G. M. NILES, p. 564.

Case report.

#### RADIUM IN THE TREATMENT OF SYNOVIAL LESIONS OF THE SKIN. R. L. SUTTON, p. 565.

Case report.

(*Ibidem*, Feb. 26, 1916, lxvi, No. 9.)

#### COMPLICATED NERVE TISSUE INVOLVEMENT ARISING FROM SYPHILIS OF THE VERTEBRÆ. C. C. WHOLEY, p. 627.

Report of a case exhibiting marked neural symptoms.

#### CULTURAL EXPERIMENTS WITH THE SPIROCHÆTA PALLIDA DE- RIVED FROM THE PARETIC BRAIN. U. J. WILE AND P. H. DE KRUIF, p. 646.

The testis of a rabbit was inoculated with tissue from a living paretic brain; two months later, the right testis was removed and, after maceration in normal saline solution, a portion was planted deep in tubes of rabbit kidney ascitic

agar, covered with paraffin oil to promote growth under anaëbic conditions. Examination four weeks later showed no visible growths, but a moderate number of spirochætæ. After further incubation, visible growths of a pure culture appeared. Three successful subcultures were made, the spirochætæ being as actively motile as when first obtained. The predominating form was the typical fine spirochætæ with many convolutions, though in the rabbit's testis, numerous short, thick forms with few spirals were found. The cultures grew much more slowly and much less luxuriantly than do those cultivated from early cutaneous and mucous membrane syphilides.

SANITATION AND THE CONTROL OF PELLAGRA. C. T. NESBITT, p. 647.

Nesbitt's conclusions, after five years' work in one locality, are that "the incidence of pellagra is not decreased by improved sanitation and general disease prevention methods, and that it is materially increased by business depression and increased prices of food."

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## AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(December, 1916, clii, No. 6.)

Abstracted by R. C. JAMIESON, M.D.

THE ÆTIOLOGY OF PELLAGRA: A CONSIDERATION OF VITAMINE DEFICIENCY. E. J. WOOD, p. 813.

Acting on the theory that pellagra is due to a vitamine deficiency, analogous to beriberi and scurvy, Wood undertook experiments in feeding pigeons and fowls, with excellent results. Corn has a fat content of 5 per cent. for the whole grain, 30 per cent. for the germ, the latter, however, being more easily contaminated in storage and destroyed in the modern high milling process. Other investigators had shown the influence of soda and certain baking powders on vitamines in preparing bread, this influence being counterbalanced by tartaric acid or sour milk. Wood was enabled to show that in one community the year of the appearance of pellagra coincided with the year in which the old style of milling was abandoned for modern methods and further that many districts in North Carolina, where older methods of milling are still in vogue, are free from pellagra even though poverty and poor hygiene are most pronounced.

By experiments on pigeons it was found that a certain group of symptoms developed after feeding a very deficient corn diet, the symptoms disappearing when the diet was changed to corn chops (chops is the term applied to a product of milling which is rich in fat and contains 1.15 per cent. of phosphorus pentoxide). An alcoholic extract was made which proved as effective as a similar substance from rice polishings had proved in beriberi.

Pellagrins were fed on an exclusive diet of corn chops with improvement in all cases and in some patients remarkable changes followed the diet. Vitamine deficiency can be replaced by meat, eggs and milk but the people of pellagrous districts are unable to supplement their diet in such a manner and also pellagrins improve faster when corn chops are fed than they do on a high protein diet.

He believes that pellagra can readily be prevented by the use of whole grains which have not deteriorated and by the avoidance of alkaline rising agents.

**SALVARSAN IN THE TREATMENT OF DOUBLE INFECTIONS, TUBERCULOSIS AND SYPHILIS.** N. B. PORTER, p. 823.

Potter advocates the use of salvarsan or neosalvarsan in tuberculosis as soon as any added infection is determined to be syphilis, especially if the patient has a leucic history and is not improving under the usual tuberculosis treatment. Active tuberculosis, acute tuberculosis and diffuse miliary tuberculosis usually preclude the use of salvarsan and neosalvarsan except in small doses to the first two groups, to try its effect. Caution should be exercised in the use of salvarsan in syphilitics who become actively tuberculous, the more active the tuberculosis the smaller should be the initial dose.

(*Ibidem*, January, 1917, cliii, No. 1.)

**SYPHILIS OF THE STOMACH: A CLINICAL AND ROENTGENOLOGICAL STUDY, WITH A REPORT OF TWENTY-THREE CASES.** G. B. BUSTERMAN, p. 21.

The writer believes that syphilis of the stomach is not so uncommon as is usually supposed, as a negative history and Wassermann do not exclude the possibility of its occurrence. He establishes his diagnosis by means of a positive Wassermann, X-ray examination, history of infection and a cure by antisyphilitic measures only. The possibility of syphilis of the stomach should never be overlooked, although the symptoms usually point to benign gastric ulcer, while chemical analysis and X-ray suggest carcinoma. Usually there is anacidity and achylia while extensive involvement has occurred by the time symptoms are prominent. Some cases require surgical intervention.

(*Ibidem*, February, 1917, cliii, No. 2.)

**HOW CLOSELY DO THE WASSERMANN REACTION AND THE PLACENTAL HISTORY AGREE IN THE DIAGNOSIS OF SYPHILIS?** J. MORRIS SLEMONS, p. 212.

Slemons studied the Wassermann reaction and placental findings in 360 cases and found that in 95 per cent. the results agreed. There is, however, one source of error in a toxæmia of pregnancy which may give slight fixation, that should not be accepted as a positive reaction. In only three cases were the findings contradictory.

He advocates routine examination of the chorionic villi, microscopic sections being studied if the appearance of the villi indicates syphilis.

**THE TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM WITH INTRASPINAL INJECTIONS OF MERCURIALIZED SERUM.** J. M. WOLFSOHN, p. 265.

The method of obtaining and preparing the serum are practically the same as the original Swift-Ellis method for salvarsanized serum, the patient, however, receiving full doses of mercury for one week, before withdrawal of the blood, and having 1/50 grain of mercuric chloride added to the serum before being inactivated.

The only cases treated (25 in number) were those of paresis and tabetics suffering from lancinating pains in the legs. Each patient averaged five injections at about weekly intervals. The author thinks the improvement is more prompt than with the Swift-Ellis method and further states that there is no danger connected with the treatment, while the serum can be used at any time after preparation. He believes it is especially valuable in tabes with severe pain but it is too soon as yet to determine the permanency of results.



## JOURNAL OF EXPERIMENTAL MEDICINE.

Abstracted by R. C. JAMIESON, M.D.

(October, 1916, xxiv, No. 4.)

## A STUDY OF SERUM SALVARSANIZED IN VITRO. H. F. SWIFT, p. 373.

Using a strain of *Spirochæta duttoni*, Swift was enabled to reach some very interesting and important conclusions in regard to the use of salvarsanized serum. His experiments showed that heating the serum-salvarsan mixture increased its potency (in one instance eight times) and a great difference was noted in serum removed from the clot shortly after withdrawal of the blood, as compared with serum which had been allowed to remain on the clot over night. This difference was still more pronounced after heating. These results were determined with blood from salvarsan-treated patients and were the opposite of the results obtained when using serum salvarsanized *in vitro*.

He believes the action of the heat to be in removing some inhibitory substance from the serum and increasing the spirochæticidal action of the salvarsan and he further states that salvarsan added to serum from a salvarsan-treated patient makes a more potent mixture than when added to normal serum.

(Ibidem, November, 1916, xxiv, No. 5.)

## STUDIES ON TREPONEMA PALLIDUM AND SYPHILIS; V. FURTHER STUDIES ON THE RELATION OF CULTURE PALLIDA TO VIRULENT PALLIDA AND ON REINFECTION PHENOMENA. HANS ZINSSER, J. G. HOPKINS, MALCOLM MCBURNEY, p. 561.

The writers used cultures passed through three generations of rabbits and which were identical with the Noguchi strains. They found differences in the cultures and virulent pallida which they suggest may be due to some protective structure around the organism, insulating it from attack by the protective forces of the body; or that there may be such close biological union that no reaction occurs between the body and the virulent organism. All antisera which they were able to produce had no effect on the virulent pallida, implying changes occurring during culture and a loss of parasitism.

In their agglutination experiments they found a close relationship between the *Treponema pallidum* and calligyrum, syphilitic rabbit serum, agglutinating culture treponemata very little more than normal serum, nor were they agglutinated much by sera of rabbits immunized with virulent treponemata.

Using human serum, they found contradictory results, syphilitic sera agglutinating culture pallida slightly more than normal sera, while those patients having other diseases produced sera which would agglutinate almost as much as syphilitic sera.

They could not discover any degree of immunity, either local or general, conferred by inoculation with culture pallida against infection by virulent pallida.

They are inclined to believe that these results suggest that resistance in rabbits is a localized cell phenomenon, not dependent upon a generalized reaction in tissues remote from the site of inoculation.

## BOSTON MEDICAL AND SURGICAL JOURNAL

Abstracted by OSCAR L. LEVIN, M.D.

(Jan. 4, 1917, clxxiv, No. 1.)

## STUDIES OF THE STOMACH IN SYPHILIS. FRANKLIN W. WHITE, p. 11.

Forty-four in a group of six hundred cases of syphilis, with a strongly positive Wassermann reaction, showed prominent stomach symptoms after excluding patients with hepatic cirrhosis, gumma of the liver, nephritis and tabes. In thirty-five, no definite gastric lesions were proven; in nine, actual syphilitic or coincident lesions, ulcer, gumma or cancer were found. It is often impossible to distinguish between syphilitic and coincident stomach lesions during life. Two cases were proven to be cancer at autopsy, five had ulcer, syphilitic or coincident, two had syphilitic induration or gumma. In the first group, with no proven lesions, there were no characteristic symptoms. Many cases with positive Wassermann reactions and digestive symptoms are classed with syphilis of the stomach, probably without reason.

It was impossible to differentiate between cancer and syphilis of the stomach in the two cases which showed cancer at autopsy. However, in doubtful cases a relatively benign course and the combination of quite good health and a large gastric lesion, should always suggest lues. Syphilis is also suggested by a positive Wassermann reaction and the discovery, at operation, of a hard, well-defined plaque-like lesion, or a dense nodular tumor arising from a diffusely infiltrated stomach wall.

The author concludes that gastric syphilis is one of the rarest types of syphilis and that gastric ulcer is rarely of syphilitic origin. Symptoms of dyspepsia in luetics are not produced by lesions in the stomach but result from a toxæmia as occurs in tuberculosis. In doubtful abdominal cases, syphilis should always be considered. The X-rays are important in demonstrating the effects of treatment on lesions.

## THE CORRELATION BETWEEN THE SYSTOLIC BLOOD PRESSURE AND REFLEX VASOCONSTRICTION OF THE SKIN (ANÆMIC DERMOGRAPHY). EDWARD A. TRACEY, p. 15.

The author has previously shown that the vasoconstriction of the normal reaction to stroking the skin is caused by the action of nerve stimuli coming over the sympathetic fibrils and the adrenin in the blood.

This paper is based upon the study of 125 cases. The systolic blood pressure was noted in each case, together with the reflex vasoconstriction, valuation taken at the same time. As a result of this study it was shown that low reflex vasoconstriction valuation is accompanied by or correlated with low blood pressure and that high reflex vasoconstriction valuation is accompanied by or correlated with high blood pressure.

It is also the opinion of the writer that reflex vasoconstriction measures the adrenin content of the blood.

(Ibidem, Jan. 11, 1917, clxxv, No. 2.)

## THE PUBLIC HEALTH ASPECTS OF LEPROSY. GEORGE W. MCCOY, p. 43.

A résumé is made of our present knowledge of leprosy. The finding of the bacillus is often difficult and repeated attempts may have to be made to disclose them. Precautions must be taken to differentiate them from other acid fast bacilli present in the nasal cavity. It is stated that unless one can detect distinct spindle-shaped thickening or beading on a nerve trunk it is

better to regard it as normal. So far as one can determine clinically there are few cases of cure.

In the isolation colony in Hawaii the medicinal agents chiefly used are chaulmoogra oil and strychnine. Some cases seem to be benefited by these. Caustics, carbon dioxide snow and surgery are employed for the removal of deformities and necrosing tissue.

The author claims that every leper does not require isolation, but when this becomes necessary, institutional care should be provided. Home segregation is a poor makeshift. Isolation need not be rigorous or absolute; the patient should be allowed to see his relatives but not to mingle intimately with them. The children of leper parents should be removed to clean surroundings.

#### DIABETES MELLITUS AND SYPHILIS. JOSEPH H. BARACH, p. 58.

The author refers to the discovery of syphilitic lesions in the pancreas by Whartin and Wilson, and bears out their observation that the coincidence of diabetes and syphilis is not rare and occurs more frequently than is generally believed. In the author's series of thirty-one cases of diabetes, three were in the active stages of syphilis and three more gave a history of or evidence of syphilis. The histories of these six cases are given.

The Wassermann reaction is not affected by the presence of acidosis, hyperglycemia or glycosuria.

#### RINGWORM OF THE SCALP AND ALOPECIA AREATA APPEARING SIMULTANEOUSLY IN THE SAME LOCATION. JOHN E. LANE, p. 65.

The author reports the case on account of its possible bearing on the explanation of the cause of some of the epidemics of alopecia areata. The patient, a boy, aged five years, presented a bald patch on the nape which resembled alopecia areata clinically. However, part of the border appeared scaly and the ringworm fungus was found in the scales. The lesion disappeared after two months' with little treatment. The author believes the rapid cure to be due to the depilation produced by the alopecia areata as occurs after the application of a suitable dose of X-rays. The diagnosis was confirmed later by the appearance of a typical lesion of alopecia areata in the locality of the first spot.

(*Ibidem*, Jan. 18, 1917, clxxvi, No. 3.)

#### A FURTHER WORD ON THE STERILIZATION TREATMENT OF FURUNCULOSIS. JOHN T. BOWEN, p. 96.

The principle of this method of treatment is to keep the skin sterile and prevent inoculation and auto-inoculation with pyogenic staphylococci. After a thorough washing of the whole body with hot water and soap, the skin is dried and the whole surface is then bathed with a saturated solution of boracic acid in water. The boracic acid solution is allowed to dry and the individual furuncles are dressed with the following ointment spread on cotton or linen: viz,

Boracic acid	4.0
Precipitated sulphur	4.0
Carbolated petrolatum	32.0

This procedure is repeated morning and night. All linen worn next to the skin is changed daily and in cases of extensive furunculosis the bed clothes in contact with the skin should also be changed daily.

(*Ibidem*, Feb. 1, 1917, clxxvi, No. 5.)

A LABORATORY AID IN THE DIAGNOSIS OF SCARLET FEVER. D. M. LEWIS, p. 170.

This consists in culturing material from the throat and identifying the streptococci usually found in scarlet fever cases. The author reports the histories of cases in which he was enabled to make a positive diagnosis of scarlet fever previous to the onset of clinical evidence of the disease. The test is also of value in differentiating diphtheria from scarlet fever throats and in detecting carriers.

The article is accompanied by an illustration showing the streptococci found in scarlet fever and measles.

(*Ibidem*, Feb. 8, 1917, clxxvi, No. 6.)

REPORT OF A CASE OF CONGENITAL ALOPECIA. J. HARPER BLAISDELL, A. R. CUNNINGHAM AND C. J. WHITE, p. 210.

The patient was a boy, four years old, fairly well nourished and developed and of normal intelligence. The only abnormalities were the presence of only four teeth and the scanty growth of hair. The hair on the scalp was very scanty and consisted of thin shafts about half an inch apart and one inch long. There was a deficient development of subcutaneous fat in the scalp which made it appear decidedly parchment-like. The eyebrows were represented by six to ten lanugo hairs. The nails were slightly thickened and friable. The skin of the entire body was of a xerodermatous type, scaly, extremely dry and without hair follicles.

The most striking features of the case were demonstrated by a study of serial sections taken from different parts of the skin. There were comparatively few vessels, only one arrector muscle, one abortive follicle, no hair shafts and no sweat or sebaceous glands.

## NEW YORK STATE JOURNAL OF MEDICINE.

Abstracted by OSCAR L. LEVIN, M.D.

(December, 1916, xvi, No. 12.)

THE INFLUENCE OF LUETIC INFECTION IN GYNECOLOGY AND OBSTETRICS. J. WESLEY BOVEE, p. 569.

Genital chancres occurring in the female never show the usual induration seen in men, except when located on the cutaneous vulvar surfaces. A slight parchment-like induration may occur on the mucosa, which disappears rapidly and leaves a very faint, if any trace. Cervical chancres resemble erosions and infiltrations caused by endometritis and lacerations. An exaggerated initial lesion often resembles cancer and the differential diagnosis cannot be made by the clinical appearance. In such cases one must rely upon the finding of spirochæte, a positive Wassermann reaction, a favorable response to antiluetic treatment and the study of the pathological tissue. The scar of the chancre, when on the mucosa, is always insignificant, difficult to detect and disappears rapidly. On the skin of the external genitalia, the scar appears purplish or brownish and fades completely in about six months. Even the deep ulcerative syphilides of the cervix leave no scars as typical as those of syphilitic ulcerations occurring on other mucous membranes. Cervical chancre is the most frequent female genital initial lesion. Primary or secondary lesions of the vagina are extremely rare.

Gummata occurring in the cervix and body of the uterus usually necrose and ulcerate.



Spirochætæ have never been found in the uterine body, ovaries or tubes. The author advances the hypothesis that the absence of spirochætæ in these organs may be caused by the arsenic derived from the thyroid and present in the premenstrual secretions and menstrual blood.

Lues is of greater importance in the practice of obstetrics than in gynaetrics. The most commonly affected parts of the syphilitic fœtus are the placenta, umbilical cord, liver and spleen. Spirochætæ may be found in the walls of the umbilical vein and in the connective tissue surrounding the umbilicus. Infected placentas are thicker and heavier than the normal and show an endarteritis. Gummata, hypertrophy of the connective tissue, distension of the vessels of the villi, leucocytosis and obliteration of the vessels suggest lues. The leucocytic infiltration is in constant proportion to the degree of the infection.

Syphilis affects the pregnant woman by producing pathological changes in the birth canal, dystocia and premature separation of the normally implanted placenta, which carries a mortality of 30 per cent. Renal disease is exaggerated by lues and the general condition is enfeebled, making the victim an easy prey to tuberculosis. Puerperal infection occurs more frequently in syphilitics.

The author believe that lues is the principal ætiological agent in many gynecological conditions associated with leucorrhœa and metrorrhagia. A Wassermann test should be made in all obstetric and gynecic patients.

Intensive treatment is advocated, even in the cases with a plus-minus Wassermann reaction and where the least suspicion exists.

(*Ibidem*, January, 1917, xvii, No. 1.)

#### A STUDY OF THE CEREBRO-SPINAL FLUID IN FIFTY CASES OF CEREBRO-SPINAL SYPHILIS. CHARLES CLYDE SUTTER, p. 23.

The author emphasizes the value of the examination of the cerebro-spinal fluid in the diagnosis and treatment of syphilis of the central nervous system. He believes that a Wassermann test should be made of the serum in all cases of illness of any kind. If the test proves positive a lumbar puncture should then be performed and the fluid examined for signs of syphilis. Repeated lumbar punctures and spinal fluid examinations should be made in cases of cerebro-spinal lues under treatment. If all the tests in the spinal fluid are negative one can conclude that the nervous system is free from involvement.

Although the signs and symptoms of cerebro-spinal lues are manifold and varied the spinal fluid presents a constant picture. The spinal fluid in tabes does not yield quite as much information as in paresis or cerebro-spinal syphilis but nevertheless is of value in confirming an early diagnosis and serving as a guide in the treatment. The typical paresis curve was obtained in all the twenty cases of paresis. All tests were positive in the nine cases of tabo-paresis.

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### JOURNAL OF LABORATORY AND CLINICAL MEDICINE.

Abstracted by OSCAR L. LEVIN, M.D.

(December, 1916, ii, No. 3.)

#### A STANDARD METHOD FOR MAKING UNIFORM COLLOIDAL GOLD SOLUTION. WILLIAM K. TRIMBLE, p. 199.

#### THE PRESERVATION OF ERYTHROCYTES FOR THE WASSERMANN REACTION. STANLEY P. REIMAN, p. 200.

The author compared the reliability of preserved and fresh cells when

employed for the Wassermann complement fixation test. Two hundred tests were made with cells preserved by the saccharose-gelatin method of Rous and Turner and one hundred and fifty tests with both the formalin and Rous and Turner methods. He concludes as a result of this study that the red blood cells of sheep can be preserved satisfactorily from three to four weeks. The readings with these cells are the same as when fresh cells are used.

A SIMPLIFIED COMPLEMENT FIXATION TEST. NORMAN E. WILLIAMSON, p. 202.

The test is a modification of the Noguchi test and the following advantages are claimed by the writer: 1. The patient is relieved of any discomfort, a small quantity of blood being drawn. 2. No time is lost in getting a clear serum. 3. There is no washing of blood except for standardization of reagents. The test can be completed in two hours from the time the blood is taken. 4. The test is accurate and the results correspond with those obtained with the Wassermann and Noguchi tests.

(*Ibidem*, January, 1917, ii, No. 4.)

THE DEMONSTRATION OF TREPONEMA PALLIDUM IN THE CEREBRAL CORTEX OF A CONGENITAL SYPHILITIC CHILD. CHARLES E. KIELY, p. 260.

The spirochætæ were found in the cerebral cortex of a congenital syphilitic child who died six weeks after birth from meningitis resulting from ulceration of the tumor of spina bifida. The Noguchi technique was followed for demonstrating the spirochætæ.

The writer believes that the hydrocephalus was caused by a syphilitic arteritis. The disease of the vessels promotes the exudation of lymphatic fluid in early intrauterine life, which causes a watery accumulation in the brain vesicles and the central canal.

Several excellent plates of the microphotographs showing the changes and spirochætæ in the brain tissue are included.

FURTHER NOTES ON THE MODIFICATION OF THE NOGUCHI TEST. NORMAN E. WILLIAMSON, p. 266.

## ARCHIVES OF DIAGNOSIS.

Abstracted by OSCAR L. LEVIN, M.D.

(October, 1916, ix, No. 4.)

CLINICAL DIAGNOSIS OF LUETIC AORTITIS. I. J. LEVY, p. 205.

Levy calls attention to the great frequency of aortitis in luetic individuals. Larkin and Levy were able to demonstrate histological changes in ninety per cent. of cases who suffered from lues for fifteen years or more. The finding of a positive Wassermann reaction corroborates a diagnosis of aortitis.

The course of the disease is divided into three clinical periods: 1. Primary stage or latent period. 2. Advanced stage. 3. Final stage. In the primary stage the only symptoms to be obtained are indefinite chest pains and a positive Wassermann test. It is only in this stage that antisyphilitic treatment is of any avail. During the advanced stage there may be no complaint because the decreased elasticity of the aorta is usually compensated for by the concentric hypertrophy of the heart. Angina-like pains or a true angina may be the only symptoms. Other symptoms which may be present are palpitation, dyspnœa on exertion, general physical weakness and various neuroathenic manifestations. Later, evidence of aortic insufficiency develops. The most reliable evidence consists of anginal pains, a diffuse dilatation of the

aorta as shown by the X-ray and a positive Wassermann reaction. The final stage is characterized by aortic insufficiency and failing decompensation.

Aortic insufficiency is always due to acquired or inherited lues, except in the rare instances when infectious endocarditis involves the aortic cusps. The differential diagnosis between these two conditions may then be difficult but a positive Wassermann reaction and a negative blood culture are strong presumptive evidence in favor of lues.

A sacculated aneurism is always due to lues. In the diffuse type it is difficult to state whether the ætiological factor is lues or arterio-sclerosis. The tracheal tug is undoubtedly due to adhesions between the aorta and the trachea.

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## MEDICAL TIMES.

Abstracted by OSCAR L. LEVIN, M.D.

(December, 1916, xlv, No. 12.)

### SYPHILIS OF THE CENTRAL NERVOUS SYSTEM. THERAPEUTIC AIMS AND POSSIBILITIES. WALTER J. HEIMANN, p. 353.

In his discussion of this subject Heimann points out the information recently acquired concerning our knowledge of the ætiology, pathology and microbiological characteristics of this disease, as well as the success and limitations of the new methods of treatment.

The efforts of the tissues to protect themselves against and destroy the spirochæta result in lesions which manifest themselves clinically in paresis, tabes, vascular and meningeal syphilis and gummata. Treatment aims to restore the tissue to normal and remove the signs and symptoms of the disease. Especially important is the conversion of a positive serum Wassermann reaction to normal and the elimination of the Wassermann, Lange, globulin and lymphocytic reactions in the spinal fluid. The success of treatment is limited by the site of the lesions, their extent, their nature and their state of advancement, our therapeutic agents and our means of employing them.

The Ravaut, the Swift-Ellis and the Ogilvie methods of intraspinal injection of salvarsan are described. The advantages and disadvantages of each procedure are given. The writer favors the Ogilvie method because the quantity of salvarsan introduced is known and is too small to be harmful. Although it lacks the preliminary passage of salvarsan through the body, it is compensated for, artificially.

Of all the methods of treating central nervous system syphilis, the intraspinal injection of salvarsan is regarded the most specific. If scars do not exist the diseased tissue may be restored to normal and the signs and symptoms eliminated. Of course, as syphilis is a general infection, it is desirable to combine this specific procedure with general treatment by means of the intravenous injection of salvarsan and the intramuscular injection of mercury.

SCABIES. EDWARD H. MARSH, p. 366.

(*Ibidem*, January, 1917, xli, No. 1.)

### DERMATOLOGY AND SYPHILIS IN NINETEEN HUNDRED AND SIXTEEN. WALTER J. HEIMANN AND MAX SCHEER, p. 6.

A review is made of some of the various publications for the past year, in the field of dermatology, syphilology, biology, etc.

## AMERICAN MEDICINE.

Abstracted by OSCAR L. LEVIN, M.D.

(November, 1916, xi, No. 11.)

## PELLAGRA: A BRIEF RESUME OF KNOWN FACTS. J. D. PERDUE, p. 777.

The ætiology, symptomatology, pathology and treatment of the disease are described.

For the skin lesions the author recommends a dressing of iodinated castor oil. This preparation consists of two parts of iodine in one hundred parts of castor oil.

## PELLAGRA: ITS CAUSATION AND ALLEVIATION. THAD. SHAW, p. 779.

The author makes a résumé of the reports of the various experiments which have been performed to determine the ætiological factors producing the disease. All of these show definitely that pellagra is not of bacterial origin but results from the consumption of an exclusive diet, especially of carbohydrates. Vedder has recently shown that the diet of pellagrins is deficient in foods containing a substance called vitamine. This substance is present in all animal and in some vegetable proteins and is suitable for human consumption.

The author states that the disease is caused by a nutritional deficiency or imbalance. Poverty compels the victims to use a diet consisting mainly of wheat flour in association with corn meal and canned food,—foods that are known to be deficient in vitamins.

The treatment of pellagra consists in giving a liberal diet, rich in fresh meats and meat juices, rest in bed, and a cold climate. Tonics are used for their alterative and stimulating effect; arsenic is the best of these, but is not specific. The skin should be protected from the sunlight; and its lesions and stomatitis relieved by injections of staphylococcic vaccines.

## JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION

Abstracted by OSCAR L. LEVIN, M.D.

(October, 1916, ix, No. 10.)

## DERMATITIS INDUCED BY A DRUGGIST. M. L. HEIDINGSFELD, p. 414.

The writer reports the case as a protest against the indiscriminate sale of dangerous preparations by druggists.

The patient developed a severe dermatitis following the local application of "Haag's Eczema Cure."

## MEDICAL RECORD.

(Feb. 3, 1917, xci, No. 5.)

Abstracted by W. H. GUY, M.D.

## THE MODERN DIAGNOSIS AND TREATMENT OF SYPHILIS. FREDERICK W. SMITH, p. 186.

Due credit is given modern diagnostic methods for proper and early diagnosis with especial reference to the use of the serobiological tests, dark field,



India ink smears, Giemsa stain, etc. The author discusses the Wassermann test at some length, calls attention to some sources of error in technique and lends his support to the use of the provocative salvarsan in selected cases. Attention is directed to the spinal canal with reference to diagnostic methods, to prophylaxis of late manifestations and to treatment. Salvarsan given intensively, intravenously, coupled with mercury, preferably intramuscularly, are used and checked by serological examinations at stated intervals. The paper gives in detail the treatment of the disease in its different forms.

## NEW YORK MEDICAL JOURNAL.

(Feb. 3, 1917, cv, No. 5.)

Abstracted by W. H. GUY, M.D.

### ULTRAVIOLET RAYS IN SKIN DISEASES. FRED WISE, p. 196.

The author presents the results of two and one-half years of personal experience with the ultraviolet rays, no reference being made to the literature, so that prejudice may be lacking in his inferences. Dr. Wise believes that the ultraviolet ray has been overestimated by some, underestimated by others, that it is of less value in dermatology than X-ray and radium but that the remedy will be found useful in many resistant dermatoses. The ease of application and comparative infrequency of bad results are mentioned and it is stated that rather a severe reaction is necessary to favorably affect most dermatoses. Excellent results are reported in cases of parapsoriasis, angioma serpiginosum, chloasma, acanthosis nigricans, acne, seborrhœa oleosa, rosacea, furunculosis, lichen chronicus simplex, sycosis, alopecia areata, etc. The rays in other dermatoses, such as acne varioliformis, lupus erythematosus, psoriasis, etc., caused improvement but the results were not permanent. Very good results are reported in cases of premature alopecia.

## PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE.

(November, 1916, x, No. 1.)

Abstracted by W. H. GUY, M.D.

### LEUCOCYTHÆMIA CUTIS. H. BATTY SHAW AND D. LOUGHLIN, p. 19.

A farm laborer, aged 37, with lack of specific history, developed pains in his back and joints about eight months ago, to be followed a few days later by the development of purple colored patches on the body and face. These infiltrations increased in size and in about three months, ulcerated. The features were leonine, suggesting leprosy. Subconjunctival hæmorrhages were noted. The feet were œdematous. The skin was hyperæsthetic but not pruritic. Temperature, 101°-102° F. The mucous membranes were pale and infiltrations were noted on tonsils and larynx. The blood showed a secondary anæmia with comparatively low white count, about 65 per cent of which were small lymphocytes. Histologically, the tumors consisted of lymphocytic infiltrations. Other names suggested were aleukæmia cutis and pseudo-leukæmia cutis.

## SCHAMBERG'S DISEASE. H. G. ADAMSON, p. 7.

Case reported. Diagnosis questioned.

## MULTIPLE RODENT ULCER. H. G. ADAMSON, p. 11.

A case reported.

## PRURITIC DERMATITIS. A. WHITFIELD, p. 11.

A pruritic, patchy eruption of small papules, surrounded by a zone of erythema and in some cases surmounted by a small pin head vesicle or crust distributed over the forearms, upper arms, thighs, breasts, abdomen and scalp. The face, fingers and wrists were free. All members of the family were affected. The source of the trouble was determined to be a kitten suffering from mange and in which a small acarus was demonstrated. A mild course of treatment for scabies caused prompt recovery.

## RESISTANT ECZEMATOUS ERUPTION ASSOCIATED WITH ERYTHRÆMIA. J. H. SEQUEIRA, p. 14.

Report of a case.

## SEBACEOUS ADENOMA. J. H. SEQUEIRA, p. 15.

Report of a typical case in a young girl, with treatment scars from similar lesions in the mother.

## SEVERE IODIDE ERUPTION. GEORGE PERNET, p. 17.

## LOCALIZED SWEATING OF THE FACE AND HIDROCYSTOMA. S. E. DORE, p. 18.

## MULTIPLE IDIOPATHIC HÆMORRHAGIC SARCOMA (KAPOSI). F. PARKES WEBER, p. 19.

## CASE OF CIRCUMSCRIBED SCLERODERMIA (MORPHCÆA) IN A CHILD. J. H. STOWERS, p. 20.

## ACNITIS IN AN EGYPTIAN SOLDIER. ALBERT J. CHALMERS AND A. F. C. MARTYN, p. 23.

A case seen in its earliest stages and quickly yielding to treatment, based upon intestinal disinfection. The eruption was one of typical lesions in the usual locations, appearing rather suddenly and accompanied by fever. Sputum was negative for tubercle bacilli but the von Pirquet was strongly positive. Lesions were studied histologically and no bacilli demonstrated; animal inoculations were performed with negative results. The young papules showed the beginning of the process to be in the lower rete cells and upper corium. The later lesions presented the usual picture with presence of multinucleated cells, plasma cells and lymphocytes.

This patient recovered under small daily doses of calomel, followed by salines. Salol and bicarbonate of soda were given three times a day. Nothing was used on the lesions except calamine lotion.

The authors advance the theory that three factors enter into the production of this disease: sensitization to the tubercle bacillus by previous infection; an unknown intestinal bacterial product; and sunlight; thus explaining distribution, histopathology and the rationale of their plan of treatment.

(*Ibidem*, December, 1916.)

## CASE FOR DIAGNOSIS. E. G. GRAHAM LITTLE, p. 52.

A questionable case of epidermolysis bullosa.

## AMERICAN JOURNAL OF SYPHILIS.

(January, 1917, i, No. 1.)

Abstracted by W. H. GUY, M.D.)

## THE CHEMOTHERAPY OF MERCURIAL COMPOUNDS. JAY FRANK SCHAMBERG, JOHN A. KOLMER, GEORGE W. RAIZISS, p. 1.

The authors report a series of careful and painstaking experiments, which are adequately summarized in their conclusions. These are:

1. The most valuable scheme for the determination of the bacterial properties of new compounds is by the correlated employment of the antiseptic and germicidal tests *in vitro* and by the use of the drug in experimentally infected animals.

2. The best method of determining the trypanocidal properties of new compounds is by the parasiticide test *in vitro*, the test *in vitro-vivo* and by the employment of the medicament in experimentally infected animals.

3. Our test *in vitro-vivo* has shown itself to be more delicate in the demonstration of the trypanocidal activity of chemical compounds than any other tests. Animals infected with trypanosomes treated with mercuric chloride by this method, were for the first time kept sterile for a number of days, thus demonstrating some trypanocidal effect exerted by mercury.

4. The fact that a chemical substance is strongly germicidal in the test tube is no evidence that it will exert a demonstrable influence on the same organism in the living body. Such substances, however, are more promising for chemotherapeutic investigation than those which are inert.

5. Vegetable organisms such as the *Staphylococcus aureus* and the *Bacillus typhosus* are far more vulnerable to the action of mercury in the test tube than to salvarsan. Indeed, mercury possesses stronger bactericidal properties in the test tube than any chemical agent with which we have experimented.

6. Salvarsan, however, is not devoid of germicidal effect as it kills the *staphylococcus* in the dilution of 1 to 2,000 upon prolonged exposure.

7. Salvarsan, in our experiments, has shown itself to be, by far, the most powerful trypanocide in the test tube known. By the method *in vitro-vivo*, it destroys trypanosomes in dilution as high as 1 to 40,000. Bichloride of mercury shows markedly inferior values in this respect. The superiority of the influence of salvarsan over mercury in experimental trypanosomes is incontestable.

8. In the test tube, salvarsan exhibits a greater destructive influence on animal parasites, and mercury a greater destructive influence on vegetable parasites. Salvarsan is a powerful trypanocide and a feeble bactericide; mercury is a powerful bactericide and a relatively feeble trypanocide.

9. Trypanosomes and spirochætæ appear to react chemotherapeutically in a similar manner. Medicaments which have a destructive effect upon the former, likewise appear to exert a similar influence upon the latter.

10. There is strong presumptive evidence that chemical substances which are capable of destroying trypanosomes in the animal body, exert a favorable effect in syphilis.

11. Failure, however, of a chemical substance to destroy the parasites in experimental trypanosomiasis is, of itself, no proof that the medicament may not exert a favorable influence in syphilis.

12. Our laboratory experiments on trypanosomes and spirochætæ point to a greater selective affinity of salvarsan for the spirochætæ pallida than is possessed by mercury.

13. Mercuric chloride has a much greater organotropic effect than sal-

varsan; in our experiments mercury was 50 times more toxic for white rats than salvarsan.

14. A group of new organic mercury compounds has been prepared by us which far transcend mercuric chloride in their bactericidal power in the test tube. One new compound has shown itself to be over 30 times more powerful in this respect, both by the Rideal-Walker and the "antiseptic" test.

15. These new mercury compounds also exhibit a greater destructive influence upon trypanosomes than does mercuric chloride.

16. Some of these compounds have shown a lower toxicity than mercuric chloride.

#### OBSERVATIONS ON THE BLADDER IN DISEASES OF THE CENTRAL NERVOUS SYSTEM. AN ANALYTICAL STUDY OF 117 CASES.

JOHN B. CAULK AND H. G. GREDITZER, p. 42.

The authors studied 117 cases of central nervous disease with special reference to bladder disturbance. They believe that a diagnosis can almost always be made of tabes and spinal cord disease by the cystoscopic picture of the bladder—in many cases before any other lesion becomes manifest. The most common cystoscopic findings in these cases are a relaxation of the posterior urethra and a general trabeculation of the bladder.

#### SUBCONJUNCTIVAL INJECTIONS OF SALVARSANIZED SERUM IN THE MANAGEMENT OF OCULAR SYPHILIS. ROBERT SCOTT LAMB,

p. 58.

The author claims good results from subconjunctival injections of salvarsanized serum (prepared according to the Swift-Ellis method) in the treatment of diseases of the eye due to syphilis. The diseases most commonly found in the patients coming under observation and upon whom the serum was used were iritis, irido-cyclitis and interstitial keratitis.

#### GUMMA OF THE NOSE—A CLINICAL NOTE. THOMAS J. HARRIS, p. 60.

The author reports a case of gumma of the nose which, although it had existed over a year, had not ulcerated. The growth was smooth, pinkish in color, non-vascular, sprang from the anterior end of the right inferior turbinate and entirely filled the anterior nasal cavity. The diagnosis was first made by microscopical examination after the growth had been removed. The Wassermann reaction was one plus; there were no other clinical luetic manifestations. The author emphasizes the rarity of this type of lesion.

#### UNUSUAL FORMS OF SYPHILIS OF THE NERVOUS SYSTEM WITH PARTICULAR REFERENCE TO THEIR DIAGNOSIS. JOSEPH COLLINS, p. 63.

An article of interest mostly to the neurologist, in which attention is directed to the frequent occurrence of cases presenting symptoms quite different from the typical. We are advised to consider the diagnosis of syphilis in every functional and organic disease of the brain whose origin is obscure.

#### THE SPIROCHÆTAL CONTENT OF THE SPINAL FLUID OF TABES, GENERAL PARESIS AND CEREBROSPINAL SYPHILIS. UDO J. WILE, p. 84.

Spinal fluids from individuals suffering from the above named conditions were injected into the testis of rabbits. The fluid generally gave positive



Nonne-Apelt, increased cell count, positive albumin and Wassermann, no spirochætæ being demonstrable by the dark field.

In the course of four days to two weeks or longer spirochætæ were found in varying numbers, sizes and shapes in 62½ per cent. of the experimental animals. The conclusions drawn are as follows:

1. The spinal fluid from cases of early syphilis, of tabes and of paresis, contains spirochætæ, as demonstrated by transplantation into the rabbit testis.

2. The spirochætæ may be present in moderate, or even large numbers in the rabbit testis without producing the classic gumma or chancre of the testis. In some cases slight enlargement of the testis itself may be noticed. In still others spirochætæ were demonstrated in which no increase in size of the testis was noted. In no case in this series were spirochætæ demonstrable in the fluid itself before inoculation.

3. The spinal fluid, at least in cases in which the nervous system is involved, must be regarded as infectious, and as such should be handled with the same care as other syphilitic secreta.

SYPHILIS OF THE STOMACH. H. L. McNEIL, p. 91.

A review of the literature and a report of three cases in which the clinical symptoms closely resembled those of carcinoma.

SYPHILIS OF THE STOMACH. FRANK SMITHIES, p. 100.

A clinical study of thirty-five instances of organic gastric lesions associated with positive Wassermann-Noguchi reactions.

SYPHILIS OF THE STOMACH IN ITS ROENTGENOLOGIC ASPECTS. RUSSELL D. CARMAN, p. 111.

The author finds it impossible to differentiate syphilitic pathology of the stomach from carcinoma, fibromatosis and tuberculosis in the same location, by the Roentgen ray, but emphasizes the diagnostic importance of finding the luetic anæmic rather than cachectic and not ill in proportion to the extent of the disease shown by the X-ray.

LUES AND THE BABY. L. R. DEBUYS, p. 117.

Hereditary and congenital being considered to mean the same thing, diagnosis in these cases must include history, objective symptoms and serological connection of mother and child. Treatment is directed to the mother and the child by means of salvarsan, mercurials, arsenic, iodine, etc., the mercury preferably by inunction. The infant is thus treated directly and by way of the mother's milk. The author recommends applying inunctions on the belly repeatedly—not changing to different parts of the body. Salvarsan is given by way of the elbow veins, jugular veins or through the fontanel into the longitudinal sinus.

THE SANITARY ATTACK UPON SYPHILIS. WILLIAM ALLEN PUSEY, p. 125.

The sanitary attack upon syphilis includes: first, measures looking to the control of the infected and second, measures which provide safeguards against the dangers of infection. Dr. Pusey raises pertinent objections to public health regulation of syphilis as typified by the plan of notification, the regulation of prostitution, making infection a criminal offense, and restriction of marriage and he suggests as most practical a concentrated therapeutic attack upon the disease. State supervision with establishment of institutions throughout the country for the free treatment of the disease, the actual treatment to be applied by salaried, skilled men, is suggested.

Better teaching facilities for venereal diseases is recommended to our medical schools; also public education, instruction of the infected, methods for preventing infection after contact, personal hygiene, and measure to prevent indirect infection.

THE TEACHING OF SYPHILIS. H. H. HAZEN, p. 135.

Dr. Hazen especially emphasizes the necessity of better teaching of syphilis, which should be in the dispensary and at the bedside; patients should be well handled; teaching should be done by one department with a special corps of selected men, preferably one man, a dermatologist, heading the organization.

THE PLACE OF SYPHILIS IN OUR MEDICAL SCHOOLS AND HOSPITALS.

CHARLES J. WHITE, p. 144.

A discussion of the question as to who is best fitted to treat and teach syphilis. The author decries superspecialism, insists that the proper man to handle syphilis is the one with a wide knowledge of general medicine and dermatological conditions as well and finds the well trained dermatologist the best man to fill the place.

THE IMPORTANCE OF A KNOWLEDGE OF SYPHILIS, AND ESPECIALLY OF VISCERAL SYPHILIS FOR GENERAL MEDICAL DIAGNOSIS.

LEWELLYS F. BARKER, p. 149.

After reviewing the possibilities of syphilis the author concludes that the recognition of syphilitic lesions at all their possible sites, and in their several forms, presupposes not only a knowledge of the spirillodiagnostic and immunodiagnostic methods of examination for the luetic virus and for the substances that appear in the blood and in the cerebrospinal fluid in luetic infections, but, in addition, a thorough acquaintance with the diagnostic methods of internal medicine as a whole, inclusive of all the medical specialties.

SYPHILIS OF THE THYROID. LLOYD THOMPSON, p. 179.

A review of the literature and the report of a probable case.

THE PRACTICAL APPLICATION OF THE WASSERMAN TEST IN DIAGNOSIS AND CONTROL OF TREATMENT OF SYPHILIS. CHARLES F. CRAIG, p. 192.

The author discusses the technique and interpretation of the Wassermann test as applied in the army service and in concluding his paper emphasizes the importance of correct technique, suggesting standardization as a means of making the test of still greater value.

A PLEA FOR ROUTINE WASSERMANN EXAMINATIONS FOR OBSTETRIC AND GYNECOLOGIC PATIENTS IN HOSPITAL AND GENERAL PRACTICE. REUBEN PETERSON, p. 211.

The author reports 5 to 13 per cent. positive findings in routine Wassermann tests applied to obstetric and gynecologic cases, thus justifying the stand implied in the subject of his paper. A free state laboratory is suggested to facilitate the work.

RABELAIS' CONCEPTION OF SYPHILIS. DOUGLASS W. MONTGOMERY, p. 221.

An interesting historical article showing the odd views held regarding syphilis in the day of Rabelais.

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## ORIGINAL COMMUNICATIONS

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### A CLINICO-PATHOLOGIC STUDY OF AN UNUSUAL CUTANEOUS NEOPLASM COMBINING NÆVUS SYRINGADENOMATOSUS PAPILLIFERUS AND A GRANULOMA.

BY JOHN H. STOKES, M.D., ROCHESTER, MINN.

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The case which forms the material for the present study was referred to my service for the diagnosis of a solitary fungous lesion on the inner aspect of the left thigh. The pathologic findings disclosed, to my surprise, a neoplasm the identity of which was only partially suspected from clinical criteria and which was of unusual interest from the standpoint of cutaneous pathology.

#### REPORT OF CASE.

The patient was an Italian woman, aged 24 years, in fair health. General examination disclosed nothing of note other than debility incident to constipation, too frequent pregnancies and overwork. The woman was hysterical, refractory and unobserving and could not be persuaded to remain for a complete study. A rather incomplete history was obtained through an interpreter. Apparently the lesion had been present, in the condition in which it came under our observation, for twelve years, but it had undergone partial regression on several occasions, when kept clean or under medical care. It consisted, as shown in Fig. 1, of two papillomatous, cauliflower-like masses of hypertrophic granulations on the inner anterior aspect of the upper third of the left thigh. It was covered with fetid pus and greenish-yellow crusts, and bled readily on slight trauma but was not extremely sensitive. Downward and inward from the main mass, which was about 2 cm. wide and about 5 cm. long and 1 cm. high, were several smaller nodules either slightly papillo-

matous or smooth, rounded, and of a bluish color. Grumous material, blood and pus could be squeezed from any portion of the condylomatous mass, and this circumstance considerably heightened its resemblance to blastomycosis. The chief clue to the nævoid character of the lesion was found in a patch of linear hypertrichosis extending downward and outward from the smaller of the two vegetating masses. There were no palpable glands in the groin and no signs of cutaneous metastasis above the lesion. The patient stated that the bluish nodules at the lower margin of the vegetation had been present for some time, and that the original lesion from which the hypertrophic lesions had developed had been of the same type.

Pending the outcome of biopsy, permanganate wet dressings somewhat reduced the larger mass and controlled some of the infection. A radical excision of the whole mass was then done, including the removal of the inactive (hairy) portion of the nævus. The subcutaneous fat was not involved and there was no appreciable infiltration of the deeper structures, the lesion being confined to the cutis. At one point a cyst in the deeper portion of one of the nodules was ruptured, discharging a grumous, brownish fluid. Microscopic examination of the pus failed to disclose any traces of blastomycetes. The pathologic examination, however, identified it as an apparently benign adenoma of the sweat glands, on which was superimposed a plasmoma, conforming in many respects to the pathologic picture of pyogenic granuloma and vegetative dermatitis.

#### PATHOLOGY.

The description of the pathology may be divided profitably into two parts—that of the adenoma and that of the granulomatous stroma.

The structure of the adenoma was seen to the best advantage in simple form, in one of the smaller bluish nodules. A parakeratotic and sodden epidermis with well-marked acanthosis at the margins of the nodule was pierced by short, parallel ducts, at the mouths of some of which the transition from squamous to cuboidal and cylindrical epithelium could be observed. The ducts dilated below the orifices, forming bottle-shaped sacs into the lumina of which papilliferous projections had been pushed. There were no signs of abscess formation either in the epidermis or the cutis. In the walls of some of the cystic glands the transition from the epidermal to the glandular type of epithelium was not complete until the deeper portions of the sac were reached, and strands of squamous epithelium formed a retiform network across the smaller spaces, springing evidently from the same groups of cells from which patches of cylindrical and cuboidal glandular epithelium arose.



The cylindrical epithelium of the ducts and sacs formed a single, but more-often a double, layer of cells, the outer being columnar, the inner cuboidal and resting on a fibrillar structure of connective tissue in the cutis (basement membrane). At no point could any signs of a tendency of glandular cells to leave the basement membrane for the cutis be observed, the structure of the glandular portion adhering strictly to that of an adenoma.

At the margin of one of the smaller lesions a distinct picture of basal-cell extension downward into the cutis was observed in the form of cords and strands slightly suggestive of epitheliomatous proliferation. Cell rests, oval or irregular in contour, were recognized, forming solid masses, some of which showed signs of central degeneration or tubular structure. These presumably primitive tubules contained granular material. In close association with them were groups of typical and atypical coil ducts lined with epithelium either normal or of various thicknesses. Ducts showing all degrees of cystic dilatation were observed. The cutis in the smaller lesions showed signs of a mild inflammatory reaction about the capillary rete, with some invasion of the cutis by lymphocytes and occasional small groups of plasma cells. A slight increase in the number of mast cells in the small lesions heralded the very great increase observed in the large vegetation. Hyperpigmentation was marked at the periphery of one of the nodules. Hair and sebaceous glands as such seemed to be entirely absent in the nodules and in the main mass, and the structure of the gland ducts was so obviously of the sudoriparous type as scarcely to admit of doubt as to their identity.

In the large, vegetative lesions the picture described for the smaller nodule was intensified in every particular except that at the margin no sign of a down-growth of basal cells from the epidermis was observed. In the deeper portion of the cutis, beneath the vegetation, however, there were again occasional solid cords of cells scattered among typical and atypical coil ducts (Figs. 3 and 4). Some of these showed the transitions and cystic degeneration and dilations with granular detritus, recognized in the sections of the nodules. Remarkable pictures of papilliferous outgrowths from the single layer of epithelium lining these cystic ducts were observed (Fig. 5).

The metaplasia of epithelium observed in these sections was one of the most interesting features, and well illustrated the varied developmental possibilities of the basal epidermal cell originating from embryonic ectoderm. At the mouths of the ducts were typical squamous

cells, in some cases extending far down into the interior on one side and on the other being quickly replaced by a single layer of cuboidal cells, and again in turn by two layers (Figs. 6 and 7), the inner oblong or cuboidal, the outer showing all gradations from short, thick cylindrical to a tall, closely-crowded columnar epithelium. Epithelium of this latter type was in places scarcely to be distinguished from that of the trachea, except for its lack of cilia. Certain of the groups of tall, cylindrical cells, on superficial observation, even seemed to be ciliated, but careful comparison of various parts of the lesion has convinced me that the appearance is an artefact, due to a deeper staining of the outer edges. Some of the sacculations from the main duct showed trabeculae of rhombohedral cells springing from the same cuboidal base as the tall cylindrical types. All stages of transition from coil ducts and solid cords in the deeper portions of the cutis, to the adenomatous sacculations of the upper cutis could be recognized.

The granuloma responsible for the tremendous vegetative hypertrophy of the larger lesions is of exceptional interest. In the gross, as previously remarked, it suggested a vegetative dermatitis or blastomycosis. In the sections, no signs of epithelial abscesses were apparent and the changes in the epidermis as a whole were merely those of a fairly marked acanthosis. No organisms were demonstrable. At the periphery of the vegetating lesions there was considerable lengthening of the rete pegs but the changes in the corium were slight. Beneath the vegetation, the entire upper portion of the corium was transformed into a granuloma, surmounted by a spongy, lobulated mass consisting of innumerable newly-formed capillaries and blood sinuses, in a stroma composed of a thin, fibroblastic reticulum, the meshes of which were packed with lymphocytes, plasma cells and mast cells with a few polymorphonuclears and eosinophiles. The increase in basophilic cells approximating the mast-cell type is well shown in FIG. 11. Most of these cells were of the smaller, more compact, densely-staining type seen, for example, in the infiltrations of urticaria pigmentosa in cases in which these cells are present, and in mycosis fungoides.

#### DISCUSSION.

The differential diagnosis of the neoplasm clinically involves the possibilities already mentioned and could not be regarded as satisfactorily established without microscopic study. No infectious agent other

than pus organisms could be identified. Not only were blastomycetes not found in the tissue but the pathology also effectually excluded this possibility.

A rich controversial literature has developed about that group of cutaneous neoplasms associated with embryonal rests of epithelium in the cutis which range in type of lesion from basal-celled epithelioma to the benign sudoriparous and sebaceous adenomas. The miliary or disseminated type of syringoma of the conventional text-book description (acanthoma of Unna) has been admirably delineated for the American literature by the studies of White, Ormsby, and Sutton and Dennie. The type represented by my case is evidently rare and the combination with a plasmoma is still more so. In fact, no parallel for this case could be found in the American literature. In the Continental literature the papilliferous adenomatous structure of this *nævus* has been best exemplified in the cases of Petersen, Wolters, Blaschko, Hedinger, Rothe, and most recently in that of Werther. Elliot's case in the American literature bears some resemblance to mine but was regarded by Elliot as an adenoma rather than an adenomatous *nævus*, though it developed in association with *nævus unius lateris*. It lacks, moreover, the associated granuloma. Lesions presenting the combination of *nævus* and plasmoma have been observed by Blaschko, Schridde, Boit, Von Weidt (cited by Rothe), and by Hedinger and Rothe on the scalp. Rothe's discussion of the pathologic findings and their significance is the most complete. The solitary syringadenoma recently reported by Paul and Adamson is inadequately described and illustrated, so that it is difficult to base comparisons on it. The arguments for and against the *nævroid* character of these lesions as distinguished from simple adenoma of the sweat glands are summarized by Sutton.

The case here reported is of peculiar interest in that apparently the histogenesis of the lesion can be worked out with unusual completeness, including its origin in the epithelial strands or rests in the cutis, the solid and cystic masses among the coil ducts and the sacculated, adenomatous, papilliferous glands embedded in the substance of the plasmoma. In effect, this case, like Werther's, combines the less definite and more fragmentary findings of a number of cases and appears to substantiate the most widely accepted view of the origin of this type of *nævus*. Since the lesion was apparently not congenital, it must be conceded that the adenomatous degeneration occurred in later life as an incident in the life history of the *nævus*. The mere fact that adenoma

developed in later life in a region presumably predisposed, through the presence of epithelial-cell inclusions, to degenerative and neoplastic changes of this type need not, from the broader histogenetic standpoint, preclude the use of the term, "nævus syringadenomatosus." The presence of the cell rests already referred to, the duct-like cords and cystic degenerations in solid cellular inclusions, together with other evidences of epithelial origin, the associated linear hypertrichosis and the presence of apparently normal ducts among the nævus types in the affected region, seem to me to fully justify its designation as a nævus. Werther reached the same conclusion in his case on the basis of similar findings.

Epithelial metaplasia, as already remarked, is one of the most extraordinary features of the sections, ranging from the basal-cell type, found in the solid epithelial strands, through cuboidal forms to the most remarkable columnar transformation among the papillomatous ducts. A careful study of the hairy portion of the tissue removed was made with a view to ascertaining whether any evidence of association of the neoplasm with the pilo-sebaceous system could be made out, but without result. Normal sweat glands, hair follicles and sebaceous glands were recognized, but no definite epithelial inclusions. Rothe cites Brauns as having recognized such an association in one case which apparently morphologically was none the less of the sudoriparous type. It is noteworthy that in the portion of the cutis in which the lesions arose in my case, as in Rothe's, hair and sebaceous glands seemed to be absent.

The question as to whether a malignant degeneration had occurred is of clinical interest. One general pathologist to whom the sections were shown, believed the lesions to be sarcomatous, a judgment which has not infrequently been passed on pyogenic granulomas and which was not concurred in by dermatologists to whom the sections were submitted. With practical certainty, the glandular structure was that of an adenoma and not of an adenocarcinoma, and no suspicious newly-formed tubules or cords of cells were found out of association with the sweat glands proper, or in other parts of the cutis. Even where the proliferative process was most active, no signs of a tendency on the part of the glandular epithelium to leave the basement membrane could be discovered. Werther's case, resembling mine, was not regarded as malignant. Hedinger, however, believed his case to have become carcinomatous, and Rothe could not fully satisfy himself on the point. Another consideration justifying doubt in these cases is the occasional well-known difficulty in distinguishing between benign and malignant pictures



when basal cells are involved. For this reason radical excision seemed justified in the present case.

The numbers of plasma cells present in certain portions of the granuloma seem to exceed the proportion of this type of cell found in the majority of pyogenic granulomatous lesions (Wile); Rothe also noticed the unusual numbers of plasma cells in the lesion which he observed on the scalp. He suggested that something in the composition of the granular detritus or the secretions from the hypertrophied tubules acted as a chemotactic agent. The present case afforded no opportunity to study this speculative explanation more closely or to offer other reasons for the presence of such numbers of these cells in the stroma of the neoplasm.

#### CONCLUSIONS.

The case here presented offers the extremely rare combination of a nævus of the sudoriparous glands with a highly vascular granuloma containing large numbers of lymphocytes, plasma and mast cells in a fibroblastic stroma, suggesting in many ways a granuloma pyogenicum or a vegetating dermatitis.

All stages in the histogenesis of such a nævus, according to the conception of origin in epithelial rests and inclusions (Cohnheim), seemed to be represented in the material from this case. While no frank evidence of the malignant nature of the neoplasm was found, the difficulty of distinguishing with certainty between the "Anlagen" of these lesions in the cutis, and malignant changes in an adenoma of this type, should be borne in mind in dealing with it clinically, and radical excision or large doses of Roentgen rays given preference over less efficient methods of treatment.

#### REFERENCES.

- <sup>1</sup>BLASCHKO, A. Das Hidrocystoma papilliferum. Unna Festschrift, 1910, ii.
- <sup>2</sup>BRAUNS, T. Ein Fall von ausgebreitetem Schweissdrüsen-Adenom mit Cystenbildung. *Arch. f. Dermat. u. Syph.*, 1903, lxiv, pp. 347-359.
- <sup>3</sup>ELLIOT, G. T. Adeno-cystoma intracanalicular occurring in a nævus unius lateris. *Jour. Cutan. Dis.*, 1893, xi, pp. 168-173.
- <sup>4</sup>HEDINGER, E. Zur Frage des Plasmocystoms (Granulationsplasmocystom in Kombination mit einem krebsig umgewandelten Schweissdrüsen-Adenom des behaarten Kopfes). *Frankfurt. Ztschr. f. Path.*, 1911, vii, pp. 343-350.
- <sup>5</sup>ORMSBY, O. S. Syringoma. *Jour. Cutan. Dis.*, 1910, xxviii, pp. 433-444.
- <sup>6</sup>PAUL, S. N. AND ADAMSON, H. G. A case of syringoma. *Brit. Jour. Dermat.*, 1916, xxviii, pp. 106-109.

- <sup>7</sup> PETERSEN, W. Ein Fall von multiplen Knäueldrüsengeschwulsten unter dem Bilde eines Nävus verrucosus unius lateris. *Arch. f. Dermat. u. Syph.*, 1892, xxiv, pp. 919-930. Cited by Rothe, *loc. cit.*
- <sup>8</sup> PETERSEN, W. Beiträge zur Kenntnis der Schweissdrüsen-Erkrankungen. *Arch. f. Dermat. u. Syph.*, 1893, xxv, pp. 441-479. Cited by Rothe, *loc. cit.*
- <sup>9</sup> ROTHE, L. Ueber einen Fall von Nävus syringocystadenomatosus (Hidrocystoma papilliferum) mit Plasmom. *Arch. f. Dermat. u. Syph.*, 1912, cxiii, Orig., pp. 837-906.
- <sup>10</sup> SUTTON, R. L. AND DENNIE, C. C. Possible interrelationship of acanthoma adenoides cysticum (multiple benign cystic epithelioma) and syringocystadenoma (lymphangioma tuberosum multiplex). *Jour. Am. Med. Assn.*, 1912, lviii, pp. 333-336.
- <sup>11</sup> SUTTON, R. L. Diseases of the skin. St. Louis, Mosby Co., 1916, p. 515.
- <sup>12</sup> WERTHER. Syringadenoma papilliferum (Nävus syringadenomatosus papilliferus). *Arch. f. Dermat. u. Syph.*, 1913, cxvi, Orig., pp. 865-870.
- <sup>13</sup> WHITE, C. J. Syringocystoma. *Jour. Cutan. Dis.*, 1907, xxv, pp. 49-60.
- <sup>14</sup> WILE, U. J. Granuloma pyogenicum. *Jour. Cutan. Dis.*, 1910, xxviii, pp. 663-674.

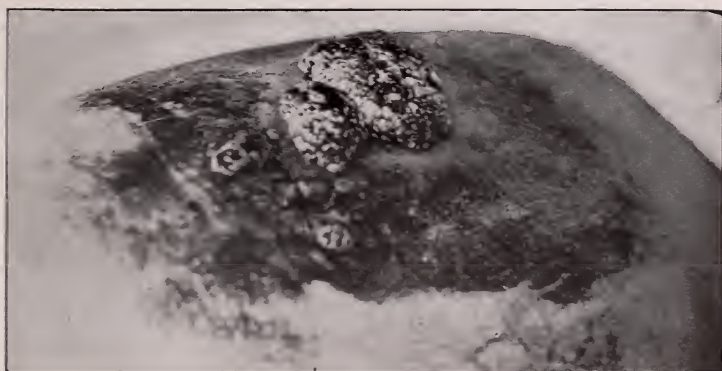


Fig. 1.—Vegetative nævus syringadenomatosus of the right thigh. The linear hypertrichosis is visible to the left. Discoloration due to potassium permanganate solution.

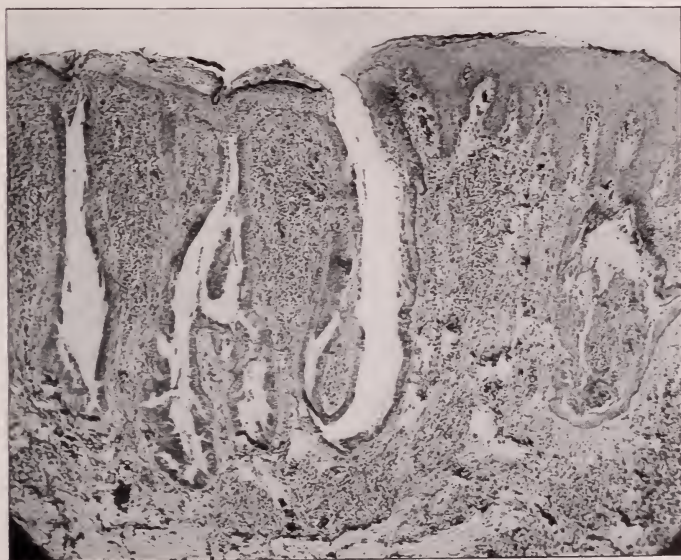


Fig. 2.—Sagittal section of one of the smaller nodules showing the crypts.

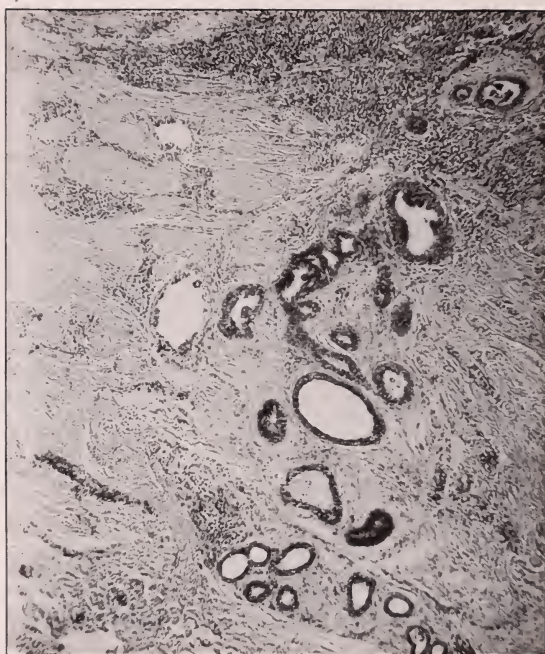


Fig. 3.—Section from the edge of the plasmoma showing cystic and embryonal coil ducts, with transitional stages between solid cords and patent ducts.

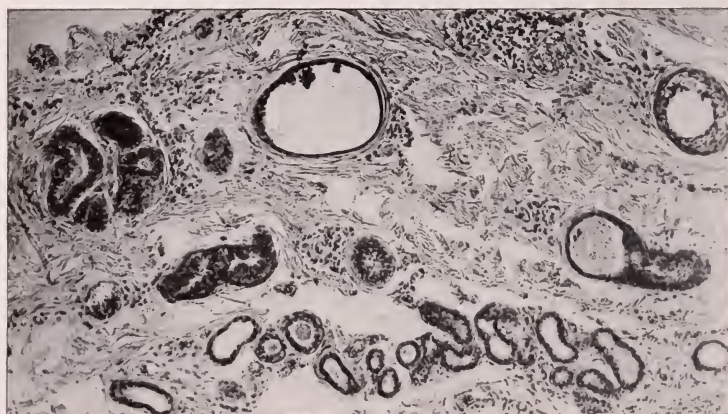


Fig. 4.—Transitions from solid cords to patent ducts.



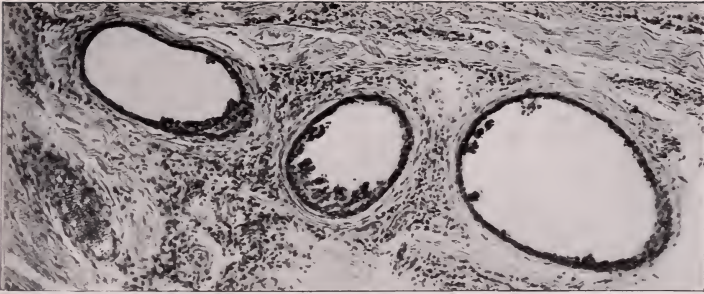


Fig. 5.—Papilliferous projections into the lumina of dilated ducts.

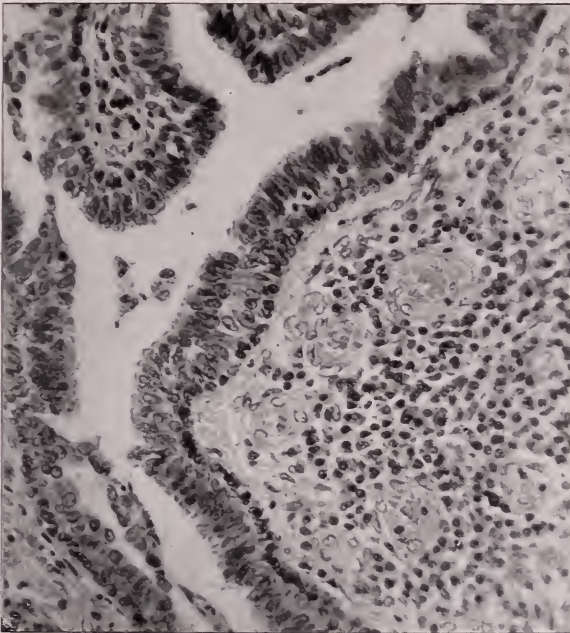


Fig. 6.—Section from large mass. Adenomatous glandular structure; outer layer of epithelium, columnar, inner layer cuboidal. The vascular structure of the granuloma can be recognized.

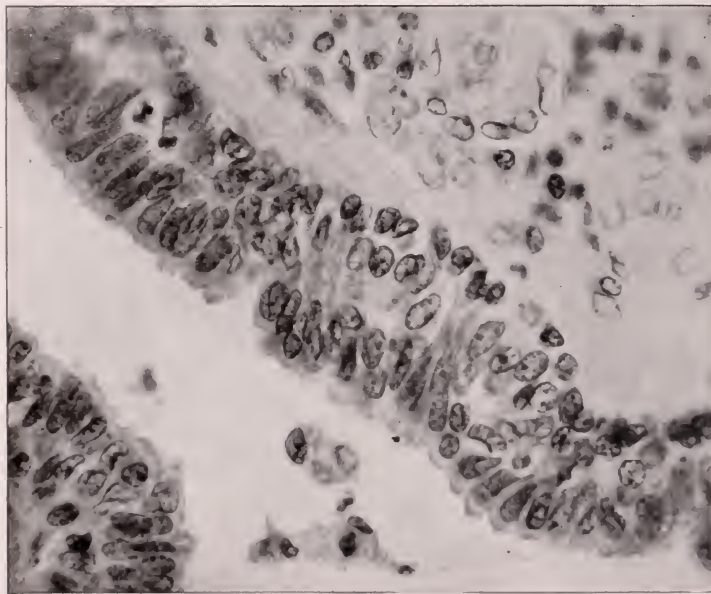


Fig. 7.—Oil immersion showing detail of epithelium. The ciliated appearance is artefact.

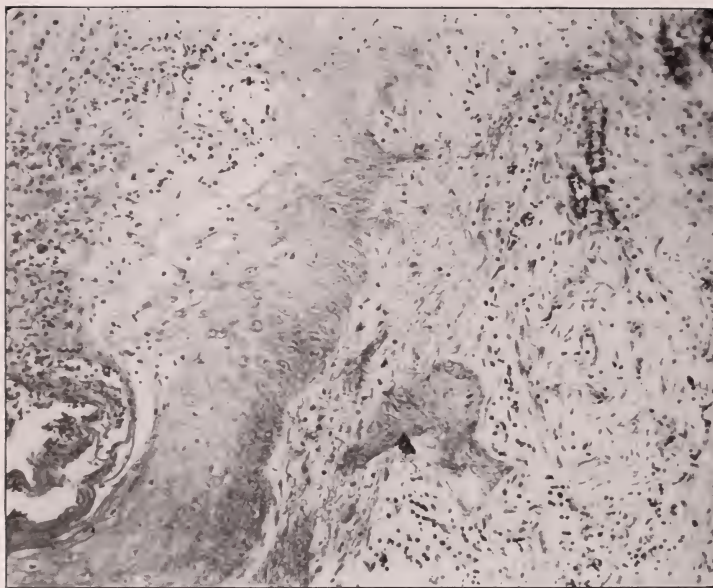


Fig. 8.—Section from a nodule showing cell inclusions and strands in the upper cutis. The epidermis extends to the right from the upper left hand corner.

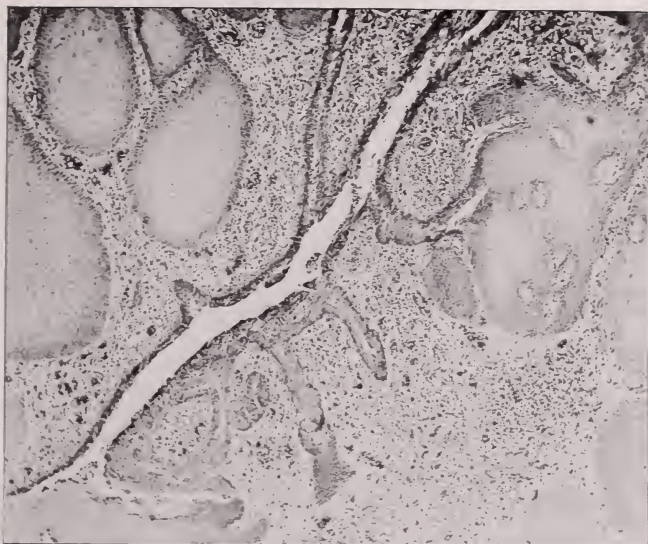


Fig. 9.—Section from the large mass illustrating the close association of glandular with epithelial hyperplasia.

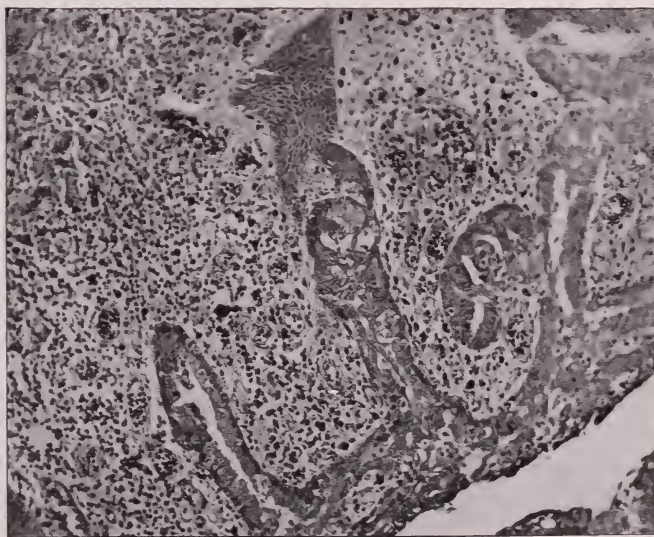


Fig. 10.—Detail of the apparent transition of an epithelial cell inclusion into a glandular structure. The middle duct is not fully formed and the lumen is filled with transitional types of cells.



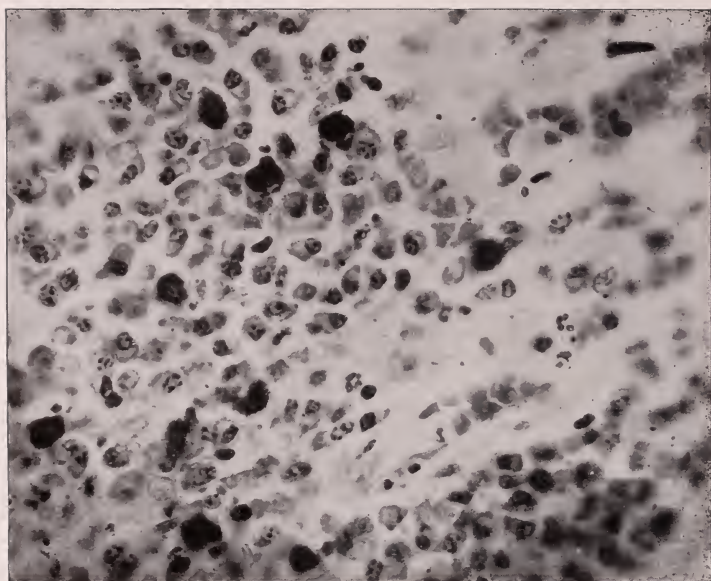


Fig. 11.—Detail of cellular structure of the plasmoma. The large cells are mast cells, lying in a mass of plasma cells, lymphocytes and fibroblasts.

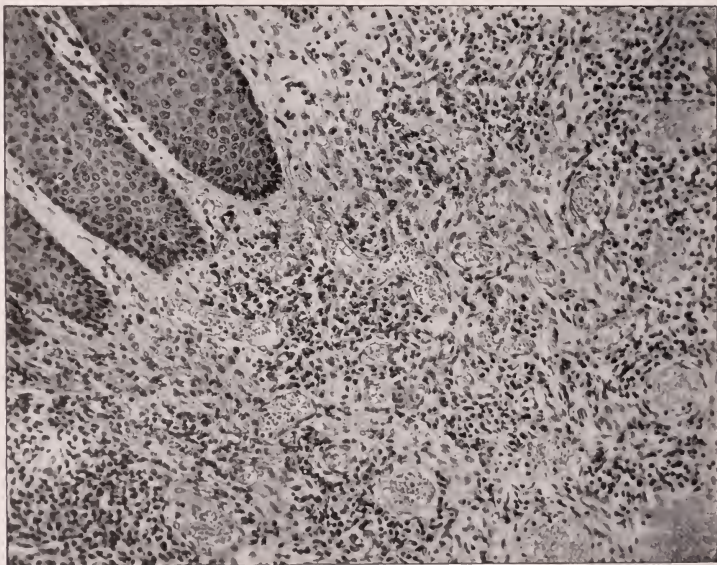


Fig. 12.—Fibrosis in the granulomatous stroma. Many newly formed blood vessels.



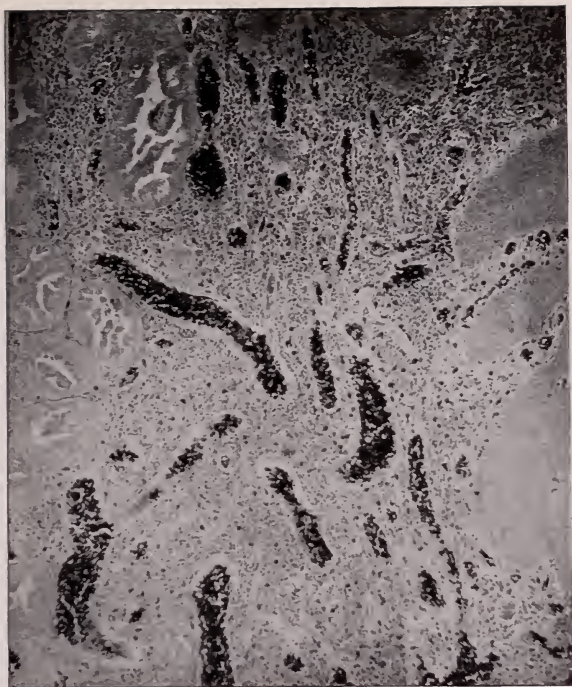


Fig. 13.—Illustrating the vascularity of the stroma.

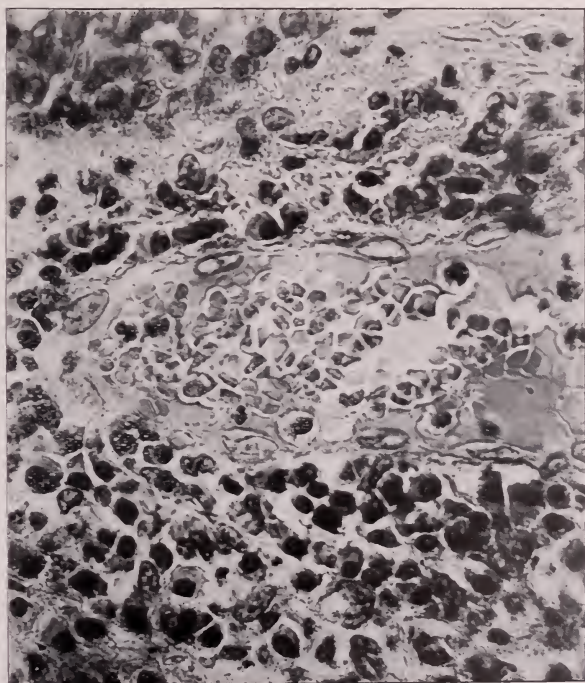


Fig. 14.—Atypical capillary in the stroma. Note the swollen endothelium.

## THE "GEL" TEST.\*

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The emulsoid-gelatin or the "Gel" test, as elaborated by McDonagh, is representative of a number of efforts that are being made to devise a chemical test for the detection of syphilis.

It is generally agreed that the Wassermann reaction is the best test for lues, in our possession to-day; many, however, admit that ultimately this reaction will be explained on a chemical basis.

When the Wassermann reaction was discovered, it was supposed that it was a specific reaction; however, a greater experience has shown that this test is not a specific one, because it probably does not detect the true spirochætic antibody, but a lipoidal reactionary substance elaborated by these body cells. Furthermore, the extract of the *Treponema pallidum* which theoretically should be the best antigen, is in reality likely to be the poorest for the detection of the syphilitic antibody, and that the most delicate antigen is an alcoholic extract of a normal organ (heart) fortified with cholesterin. It is also probable that the Wassermann reaction is not sufficiently delicate.

The pathological investigations of Warthin, showing spirochætæ in some of the organs of individuals who have had lues and have been pronounced cured, because of a negative Wassermann, is only another link illustrating the weakness of the Wassermann test.

It is our belief that the difficulty with the Wassermann reaction is that it is not delicate enough, and that it fails in a percentage of cases to detect inactive syphilis.

These considerations should arouse our efforts to devise a test which will be infallible for the detection of both active and inactive lues.

According to McDonagh, the principle of the Gel test consists in looking upon the luetic serum as a colloidal system, in which the pro-

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tein particles form the "solid" or internal phase. The particles are emulsoid (because they are partly in solution), therefore they must contain water. According to the same author, the particles of the syphilitic serum are larger and more numerous than the normal serum; a fact which can be proven by the ultra-microscope. The syphilitic serum also contains more protein nitrogen, more absorbed amino groups and more absorbed electrolytes than normal serum.

McDonagh, in order to distinguish sera containing varying amounts of protein, devised a scheme of adding glacial acetic acid to the serum which throws out the protein as a "gel." The presence of the "gel" can be made still more evident by the addition of a sulphate, since the gel, as it exists in an acid medium, would have a positive charge. Thinking that sulphate would have the greatest precipitating action, which was the salt of a heavy metal, he chose lanthanum sulphate.

McDonagh was in doubt as to the exact steps of the reaction, but he felt convinced that the addition of glacial acetic acid to a small quantity of syphilitic serum might readily serve to distinguish a normal serum according to the degree of the opacity caused and the rapidity with which the precipitate is formed. The difference could be made more apparent and be produced more rapidly by the addition of a suitable electrolyte, such as lanthanum sulphate.

The technique of performing this test consists in taking the blood from the vein and allowing the serum to separate. The serum should by preference be clear and free from blood, but an opaque serum or one tinged with hæmoglobin will give satisfactory results. The serum will give the reaction, providing it has not undergone decomposition.

In performing the test, it is necessary to have a known negative serum as well as a known positive serum. For each serum, three dry test tubes are taken and marked 1, 2 and 3. In the first tube, 2 drops of serum are placed; in the second tube, 3 drops; and in the third tube, 4 drops. It is desirable that the drops be made as small as possible, as the results obtained depend upon the size of the drops used; it is, of course, necessary that the same pipette be used for each series of tests. After the addition of the reagents, the tubes are left at room temperature, and the results can be read at once, and also the next day.

Although McDonagh proposes a number of reagents for the performance of his test, the author employed only two.

First—The ammonium sulphate test, which consists in adding to the test tubes containing the respective quantities of serum, 0.1 cc. of acetic anhydride and then 1.0 cc. of glacial acetic acid. When the tubes have been well shaken a drop of an aqueous saturated solution of ammonium sulphate is added. The tubes are again well shaken, when a mass of crystals appears. A reading is now taken and again in 24 hours. According to McDonagh, the readings of normal sera should be as follows

Immediately:

1st tube.	2nd tube.	3rd tube.
Slight opacity.	Very slight opacity.	Very slight opacity.
After 24 hours:		
Flocculent precip.	Incomp. flocc. precip.	Moderate opacity.
In syphilitic serum.		
Immediately:		
1st tube.	2nd tube.	3rd tube.
75% opacity.	Slight opacity.	Slight opacity.
After 24 hours:		
Complete flocculent precipitate in all tubes.		

The second method we employed was the acetic acid thorium sulphate test. This consists in adding 1 cc. of glacial acetic acid to the respective tubes containing the serum; the tubes are then well shaken and 0.2 cc. of the supernatant fluid in the thorium sulphate solution is added. The thorium sulphate solution is a saturated solution of thorium sulphate in glacial acetic acid.

#### THE READING IN NORMAL SERUM.

Immediately:		
1st tube.	2nd tube.	3rd tube.
Flocculent precip.	Very slight opacity.	Clear.
After 24 hours:		
Flocculent precip.	Slight opacity.	Very slight opacity.
Syphilitic serum.		
Immediately:		
1st tube.	2nd tube.	3rd tube.
Flocculent precip.	Moderate opacity.	Slight opacity.
After 24 hours:		
Flocculent precip.	(Partial flocc. precip.)	Moderate opacity.

The author, in carrying out these tests, did not always employ a positive and negative control, as they could not always be obtained; this is true only of the last 30 tests done. The rest of the technique was followed by us, as outlined by McDonagh.



In all, 87 Gel tests were done; and in all, control Wassermanns were also done. In about 40 cases the author also did the control Wassermanns and in the remainder Dr. Kolmer was kind enough to do them for us. The tubes, both for the Wassermanns and the Gel were numbered, so that it was impossible to tell which tube belonged to which individual, and in many instances, the numbers in the Gel and the Wassermanns did not correspond.

The key was kept and was not consulted until all the readings were recorded.

In doing the Wassermann, three antigens were employed: cholesterinized beef heart, acetone insoluble lipoids of Noguchi, and alcoholic extract of syphilitic liver.

The complement unit was a fixed one, the amboceptor titrated before each test and 2 units employed;  $2\frac{1}{2}\%$  suspension of sheep cells was used.

In doing the Gel test, all the sera were subjected to the ammonium sulphate test, while about 40 sera were subjected to the acetic acid thorium sulphate test. In our experience the latter test is easier to read and I think will be found more reliable.

In this series of 87 sera, there were 59 who gave a history of syphilis or had luetic lesions; practically all were under treatment. All these sera gave positive Wassermann reactions, while only 47 gave positive Gel tests. There were, therefore, 12 sera which gave a negative Gel test.

We tested 28 sera of individuals suffering with various skin affections and several with no lesions whatever. All of these 28 sera gave negative Wassermann tests, 16 gave negative Gel and 12 sera of this series gave positive Gel tests.

A summary of our series will show that in the 87 sera tested, there were 24 which did not conform with the Wassermann test, the recognized test for syphilis, giving  $27+\%$  discrepancies.

The following are the tables of the sera on which Wassermann and Gel tests were performed.

McDonagh subjected 200 sera both to the Gel test and the Wassermann reaction. Out of these 200 cases, one gave a positive and two a slight positive Wassermann reaction, although the patients had never had syphilis. By the Gel, these sera were normal. Thirty-seven out of the 200 sera gave a negative Wassermann, when the test should have been positive. By the Gel test, these sera were all positive.

There were, according to McDonagh, 40 discrepancies between the Gel and the Wassermann, a number equivalent to 20%.

### SUMMARY.

1. It is our belief that the Wassermann reaction is the best test for lues in our possession today.
2. That the Gel test is a step in the right direction, but cannot be compared in accuracy with the Wassermann.
3. The acetic acid thorium sulphate test is a more reliable test than the ammonium sulphate test.
4. It is our observation that a serum obtained from a healthy, normal individual several hours after a meal, when the products of digestion are thrown into the circulation, may give a positive Gel.
5. It is our hope that possibly a refinement of this test or the development of another test may give us a method of detecting inactive lues.

We wish to extend our thanks to all those who have aided in this work, especially do we wish to express our indebtedness to Dr. John A. Kolmer, for doing many of the Wassermann tests; and as always, we wish to express our gratitude to our chief, Dr. Jay F. Schamberg, for permitting the use of the material from his clinics, which has made this work possible.

TABLE 1.  
PATIENTS WITH LUES.

No.	Diagnosis	Gel	Wassermann		
			Ch. B. H.	A. Ins. Lip.	Syph. L.
1	Syphilis	Positive	+1	+1	+1
2	"	"	+4	+4	+4
3	"	"	+4	+4	+4
4	"	Doubtful positive	+1	+1	+1
5	"	Positive	+4	+4	+4
6	"	"	+4	+3	+4
7	"	"	+4	+4	+4
8	"	Weakly positive	+2	+1	+2
9	"	Positive		antcomp,	
10	"	Negative	+2	+1	+1
11	"	Positive	+4	+4	+4
12	"	Weakly positive	+4	+4	+4
13	"	Positive	+4	+2	+2
14	"	Negative	+4	+4	+4
15	"	Positive	+4	+1	+1

16	"	Weakly positive	+2	+2	+2
17	"	Positive	+4	+4	+4
18	"	"	+4	+4	+4
19	"	"	+4	+4	+4
20	"	"	+4	+4	+4
21	"	Weakly positive	+2	+1	+1
22	"	Positive	+4	+4	+4
23	"	"	+4	+4	+4
24	"	"	+4	+4	+4
25	"	Negative	+4	+4	+4
26	Pediculosis	Weakly positive	+1	+1	—
27	Syphilis	Negative	+4	+4	+4
28	"	Weakly positive	+4	+4	+3
29	"	Positive	+4	+4	+4
30	"	"	+2	+2	+4
31	"	Negative	+4	+4	+4
32	"	Weakly positive	+4	+4	+4
33	"	"	+4	+4	+4
34	"	Negative	+4	+4	+4
35	"	"	+4	+4	+4
36	"	"	+4	+4	+4
37	"	Weakly positive	+4	+4	+4
38	"	"	+1	+1	—
39	"	Positive	+4	+4	+4
40	"	Negative	+2	+1	+1
41	"	"	+4	+4	+4
42	Psoriasis	Weakly positive	+1	+	—
43	Syphilis	"	+4	+4	+4
44	"	Negative	+4	+4	+4
45	"	Weakly positive	+4	+4	+4
46	"	"	+4	+4	+4
47	"	Positive	+2	+1	+1
48	"	"	+4	+4	+4
49	"	"	+4	+4	+4
50	"	"	+4	+4	+4
51	"	"	+	—	—
52	Pediculosis	"	+4	+4	+4
53	Syphilis	Weakly positive	+4	+4	+4
54	"	Positive	+4	+4	+4
55	"	"	+4	+4	+4
56	"	"	+4	+4	+4
57	"	Negative	+4	+4	+4
58	"	"	+4	+4	+4
59	"	"	+4	+4	+4

TABLE 2.

## NON-LUETIC PATIENTS.

No.	Diagnosis	Wassermann			
		Gel	Ch. B. H.	A. Ins. Lip.	Syph., L.
1	Lichen Planus	Negative	—	—	—
2		Negative	—	—	—
3		Negative	—	—	—
4		Positive	—	—	— (anticomp.)
5		Negative	—	—	—
6	Eczema	Negative	—	—	—
7	No lesions	Negative	—	—	—
8		Negative	—	—	—
9	No lesions, no hist.	Positive	—	—	—
10	No lesions, no hist.	Positive	—	—	—
11	Eczema	Positive	—	—	—
12	No lesions, no hist.	Positive	—	—	—
13	Alopecia totalis	Negative	—	—	—
14	Psoriasis	Positive	—	—	—
15	Psoriasis	Positive	+	—	—
16	Seb. eczema	Positive	—	—	— (anticomp.)
17	Seb. eczema	Positive	—	—	—
18	Psoriasis	Positive	—	—	—
19		Negative	—	—	— (anticomp.)
20		Negative	—	—	—
21	Acne	Negative	—	—	—
22	Pediculosis	Negative	—	—	—
23	Dermatitis	Negative	—	—	—
24	Psoriasis	Negative	—	—	—
25	Acne Rosacea	Negative	—	—	—
26	Psoriasis	Positive	—	—	—
27	Eczema	Positive	—	—	—
28	Eczema	Negative	—	—	—



## PERLECHE.\*

## A REVIEW OF THE LITERATURE WITH A BIBLIOGRAPHY AND SOME OBSERVATIONS ON THE DISEASE AS SEEN IN NEW HAVEN.

BY JOHN E. LANE, M.D., New Haven.

## REVIEW OF THE LITERATURE.

INTRODUCTION. Perleche is a disease of minimum importance, but the fact that it has received practically no attention from English and American physicians and hence has no literature in the English language, coupled with the fact that at present all diseases of the mouth are receiving more attention than formerly, makes it seem probable that a review of the literature and some observations on the disease as seen in this country may be of some interest.

A careful search has been made for articles bearing on the subject, and it is hoped that no important ones have been overlooked. All of the literature mentioned in the bibliography has been consulted, with the exception of those articles marked "not accessible." Those so designated could not be obtained either at the Yale University Library, the Library of the New York Academy of Medicine or the Surgeon General's Library.

The only article that has been found in English is a translation by Campbell of Comby's critical review of Lemaistre's first communication on the disease. This article was published in the *Buffalo Medical and Surgical Journal* in the volume of 1886-7.

The only English or American author who has published any study of perleche is Cole of Cleveland. He included the study of a few cases in an article on eczema and pyodermatitis published in 1913, in the *Archiv für Dermatologie und Syphilis*. These cases were not seen in this country, but were from Jadassohn's clinic at Berne, where Cole was then working.

Perleche is not mentioned at all in most of the text books and reference

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\* Candidate's thesis, New York Dermatological Society.

NOTE.—In this paper "perleche" has been anglicized, the article and the accent having been dropped except in direct quotations from the French. There seems to be no good reason for retaining either one. Most books in English retain the article in heading and index, writing "la perlèche." There is no justification for this, as French usage omits the article in such cases.

books of medicine published in English. It is, however, briefly described in a few of the larger text books of dermatology and of pediatrics. These brief descriptions do not show evidence of an intimate personal acquaintance with the affection, but are apparently taken from French text books, or copied from one English book to another.

**SYNONYMS.** Perleche is the name most frequently applied to the disease both in France and in other countries. This word is from the Limousine dialect, and corresponds to the French "pourelèche" from "pour-lécher," meaning "to lick" or "to run the tongue over the lips." This popular name was undoubtedly suggested by the fact that many of the little patients continually do this. Instead of using perleche alone, "perlèche commissurale" is occasionally used, and those who classify the disease as impetigo contagiosa sometimes call it "impétigo commissurale," or "perlèche impétigineuse."

An equally characteristic and a frequently used name is "bridou." This is also a word of the Limousine patois, derived from the French "brider," to bridle. This word was undoubtedly suggested from the symmetry of the lesions and from the fact that they very much resemble the impressions made by a bit at the angles of a horse's mouth.

Other names for the disease found in the Limousine dialect are "niarde" and "poissonade." Their meaning and etymology I have not been able to determine.

Popular names for the disease are also found in German. Of these Epstein gives quite a collection. "Fauler Mund," "dirty mouth"; "Faule Ecken," "dirty corners"; "Geschwürige Mundwinkel," "sore or ulcerated angles of the mouth"; and others, less commonly used in various parts of Germany, "Mundfäule"; "Griefe"; "Böse Mundwinkel"; "Ausgefressener Mund"; "Angefressener Mund"; "Ausgefressenes or Angefressenes Maul"; "Gake"; and "Spatzenecken."

Dr. Henry Fleishner of this city says that in his school days in Bohemia near Marienbad the name that was used was "Mundwinkelfäule."

Perleche has acquired two Latin names which have not been commonly used. Of these "labialitis" is the less satisfactory, as it is too indefinite and is used to designate various other conditions. The other, "angulus infectiosus oris" is being used more frequently and is a sufficiently definite and satisfactory term.

**HISTORY.** Lemaistre, in 1885, was the first physician to study and de-

scribe perleche. Though the attention of physicians was not brought to the disease before that time, the fact that it had already acquired a considerable number of names in the Limousine dialect, is sufficient evidence that it had been known to the people of that district for a long time.

The large number of names found in the German language, collected from different parts of the country, shows that this is also true there. Epstein says that in his school days the expression "Faulecken" was current among the children of the elementary schools, and that it was associated with the ideas of lack of cleanliness and of contagiousness. In one instance he remembers that the children were warned not to drink from the same glass that one of their fellow scholars used and that on this account they avoided him and regarded him with a sort of dread. It was about thirty years before Lemaistre described the disease, that Dr. Fleishner, who has already been quoted, was acquainted with it as a boy in Marienbad.

Following Lemaistre, perleche was studied by a number of physicians, chiefly French and Italian. Among them are Jaja, 1887; Raymond, 1893; Guibert, 1896; Planche, 1897; Epstein, 1900, Eymeri, 1900; Solaro, 1900; Bureau and Fortineau, 1901; Weill and Favre Gilly, 1906; and Auché, 1906.

**GEOGRAPHICAL DISTRIBUTION.** There is little definite information as to the geographical distribution of perleche. It is well known in France, and Epstein, in 1900, showed that it is common in many parts of Germany, and pointed out the fact that it was not referred to in German medical works, especially those on pediatrics, while aphthous stomatitis, glossitis marginalis and other diseases of the mouth of no greater importance, were sufficiently described. Solaro, whose article appeared the same year as Epstein's, also said that the German literature did not contain a reference to it. Solaro said nothing as to how long it had been known in Italy, but said that the disease is known to every physician but that, up to the time of Lemaistre's description, it had remained deprived of a name.

Martinez described it in Buenos Aires.

Guibert said that it is extremely frequent in some countries and most rare in others, and added that a great number of physicians do not know even the name of the disease.

Nothing can be said as to its distribution in English speaking countries. Some of the statements in American text books are, "the disease has been seen chiefly in France" (Pusey); it is "observed chiefly in certain districts

of France" (Stelwagon); it "is frequently encountered in infant asylums in various parts of France" (Sutton).

It will be shown below that perleche is a common disease in New Haven, and from this it may be deemed probable that it exists in other parts of the United States. It is known to many American dermatologists, but Guibert's statement that a great many physicians do not know even its name, is probably applicable to this country also.

**AGE OF PATIENTS.** Perleche is pre-eminently a disease of infancy and childhood, and the greatest number of cases have been seen in children of the school age. This may be because children of a younger age are not so much exposed to contagion. Older persons are less frequently affected, but Tenneson said that the disease is seen at all ages. Raymond saw three teachers in one school in Paris affected, and said that it is not rare to see entire families, including the parents, affected.

**SEX AFFECTED.** Both sexes are equally affected.

**SEASON OF YEAR.** Lemaistre found perleche less contagious in winter than in summer. Jaja stated that there is no difference in the prevalence of the disease at any particular season of the year. Jacquet stated that the hot seasons are the most favorable for its development.

**HISTOPATHOLOGY.** The histological study by Auché is the only one that has been found in the literature. This was based on one case only. In this case the papillæ were hypertrophied and elongated. There was cellular infiltration of the connective tissue of the papillæ, with dilatation of the blood and lymphatic vessels. The cells infiltrating the connective tissue were chiefly polynuclears but there were also some fixed cells and lymphocytes. The polynuclears were especially numerous at some distance above the base of the papillæ. The interpapillary plugs were thickened but the epithelium was thinned above the tops of the papillæ. The cells of the basal cell layer were regularly arranged, and normal except at the tops of the papillæ. In the prickle cell layer the intercellular spaces were enlarged and the filaments elongated. There were some intercellular leucocytes present. In the upper layers of the prickle cell layer there was considerable cellular and sero-fibrinous infiltration. The cells were mostly polynuclears. There were some cavities between the cells and the cells surrounding the cavities were compressed, deformed and atrophied. These cavities were filled with polynuclear cells. In some parts of the prickle cell layer around the cavities, the cells had no nuclei and the proto-



plasm was opaque. There was some degeneration of cells throughout most of the stratum mucosum, even in the more superficial layers. The stratum corneum was everywhere lacking.

**ÆTIOLOGY.** There has been no doubt as to the bacterial origin of perleche since the description of the disease. There was some doubt as to whether the causal agent was a streptococcus or a staphylococcus up to 1900 or a little later. Since that time there is a virtually unanimous opinion that it is caused by one or more varieties of streptococcus.

Lemaistre at first examined scrapings of the lesions and, in the epithelial débris, always found microorganisms and was convinced of its parasitic nature. In the scrapings the bacteria were arranged in groups and chains. In bouillon cultures from five children the cocci showed similar structure, but many of them were arranged in long chains of wavy outline. From this characteristic, he gave the organism the name of *Streptococcus plicatilis*. Pursuing his investigations he found the same organism in old buckets, stagnant pools, wells and fountains. Wooden cups were frequently used for drinking by whole families, and in families affected with perleche he found the organism in large numbers in these cups. He also observed that most of the cases were found in families which were not supplied with water from the city supply. From these facts, he drew the conclusion that wells and fountains were the original sources of contamination, but that drinking cups were the most frequent cause of the spread of the disease.

Jaja accepted Lemaistre's theory that the *Streptococcus plicatilis* was the cause of perleche.

Raymond's study did not agree with that of Lemaistre. He always found the *Staphylococcus cereus albus*. Less frequently the *Staphylococcus aureus* was found and in one case there was a streptococcus which might have been the *Streptococcus plicatilis* of Lemaistre. His conclusions were that the *Staphylococcus cereus albus* might cause perleche but that several different organisms might also cause it. The *Streptococcus plicatilis* was probably only one of the organisms that might cause it, and this happened to be found by Lemaistre, because that organism was probably very common at Limoges. In his own cases he thought that the *Staphylococcus aureus* produced lesions of a different character from those produced by the *Staphylococcus cereus albus*. The latter determined a raising of the epidermis with no inflammatory reaction, a lesion in which the *Staphylococcus aureus* did not seem to grow. However, when fissures

appeared the *Staphylococcus aureus* began to grow and to rapidly produce their usual effects with inflammatory symptoms.

Negrié thought that perleche might be the result of maceration of the epidermis caused by prolonged and continuous salivation.

Leloir stated that the buccal and nasal mucous membranes were frequently inoculated by the pus of impetigo of the face. In this way he thought that certain varieties of perleche and certain suppurative affections of the lower half of the nasal cavities were produced.

Malherbe and Guibert thought the *Staphylococcus albus* to be the cause.

Planche thought it was the *Staphylococcus aureus*.

Eymeri made fifty bacteriological examinations from 38 cases. In 18 cases he found the *Staphylococcus aureus*; in 30 cases the *Staphylococcus albus*; short bacilli twice, and a leptothrix once. He made some animal experiments with the *Staphylococcus albus* from perleche lesions and also with the same organism from some lesions of eczema. These experiments seemed to show that the organism was more virulent in the lesions of perleche than in those of eczema. He explained this on the ground that the location was a mere favorable one for its growth. He considered the *Staphylococcus albus* the causal agent of perleche.

Eymeri announced the results of his study at the International Congress of Medicine in Paris, in 1900. At the same meeting Lemaistre said that while the studies of Raymond, Planche and Eymeri agreed, and seemed to disprove his theory of the streptococcic origin of perleche, still he could hardly accept their conclusions that it was a staphylococcic, and not a streptococcic disease.

From this time on there have been no champions of its staphylococcic origin.

Bureau and Fortineau studied fifteen cases and concluded that a streptococcus was the causal agent.

Auché studied ten cases and found the streptococcus in every case and in every culture. The aureus was found 7 times, the albus 6 times, the colon bacillus once, and in one case the streptococcus was found alone. His conclusion was that the streptococcus seemed to be proven the casual agent.

Brocq said that recent studies seem to have demonstrated that the streptococcus is the infectious agent.

Sabouraud considered it well demonstrated.

Audry was of the same opinion.

Cole got a pure culture of streptococcus in four cultures and in ten more it was the greatly predominating organism. But he said that cultures from the mouth also often give almost pure cultures of the streptococcus, and he believed that further studies must be undertaken before perleche can be definitely classed with the streptodermiæ. The streptococcus he most frequently found was of the longus type.

Jadassohn was of nearly the same opinion. He said that on account of the constancy of streptococci in the normal mouth, it is hard to demonstrate perleche as a simple regional streptococcic infection.

For completeness, one theory of the ætiology of perleche found in the English books may be given. It is found in Green's encyclopædia. In discussing aphthous stomatitis the statement is made that "in some cases, as a result of the drivelling of saliva, superficial erosions occur at the angles of the mouth, having a white, sodden appearance, a condition to which the French have given the name of 'perleche.'"

This book was published in 1908, but this statement is apparently taken from Negri's article, published in 1895.

REPRODUCTION OF THE DISEASE IN ANIMALS. Auché attempted to reproduce perleche in rabbits but his attempts were not successful.

ASSOCIATION WITH OTHER DISEASES. Raymond found perleche frequently associated with impetiginous stomatitis.

Weill and Favre Gilly reported an epidermis of desquamation of the tongue in which perleche was present in fifteen of the twenty-three cases reported.

The title of Camba's article, "Épidémie de desquamation linguale associée à la perlèche," makes it probable that he also found a considerable number of such cases. His article was not accessible.

Epstein found diphtheria associated with perleche in five cases.

Jacquet reported one case in a child who had alopecia areata, but of course claimed no causal relation between the two diseases.

Sabouraud said that perleche almost always accompanies streptococcic infection of the saliva and that it relapses while this infection remains active.

Darier said that impetiginous stomatitis and impetigo are frequently associated with perleche.

Jadassohn said that in his experience this association is seldom found.

Cole found impetigo present in three of his fourteen cases.

CONTAGIOUSNESS. All observers are agreed that perleche is highly contagious.

Lemaistre found 312 children of the 5,500 in primary schools of Limoges infected, or 5.6%.

Leloir said that he had seen several children affected with perleche communicate it and impetigo to other children in the same school.

Jaja found 10 cases in the schools of one commune.

Raymond declared that it is highly contagious and that all the children of a school and all the members of a family are likely to be infected. He saw two school epidemics, one in which 42 of the 155 children were affected, the other 25 of the 245 children. In one school three teachers were infected, and in one family all of the five children.

Lemaistre considered that common drinking cups were the most frequent vehicles of contagion, and others agreed with that conclusion. Among the other frequent modes of transmission are kissing, common use of lead and slate pencils, and handkerchiefs. Raymond reported a case in a school teacher who contracted perleche by kissing some of her pupils.

CLASSIFICATION. As was the case in regard to the ætiology, so there was more confusion and disagreement in reference to the classification of perleche previous to 1900, than there has been since. The confusion in both instances was largely due to the fact that up to about that time several affections were classed as impetigo, which are now differentiated from it. It had not been generally accepted that the primary infection of impetigo contagiosa is a streptococcic infection, and that the staphylococci so frequently found in the later lesions were secondary infections. It will be remembered that it was in 1887 that Bockhart published his study of the impetigo that bears his name, which is a staphylococcic infection and therefore not a true impetigo in the modern acceptation of the term.

In 1900, Sabouraud published the results of his exhaustive studies on impetigo, and proved to the satisfaction of most dermatologists and bacteriologists that the impetigo of the French School, i.e., the impetigo contagiosa of Tilbury Fox, is a streptococcic infection.

In the period before 1900 Jaja, Comby and Sevestre held to the opinion advanced at first by Lemaistre, that perleche is a streptococcic infection. On the other hand Raymond, Planche and Eymeri disputed this conclusion and held that it was a staphylococcic infection. Raymond, however, believed that it was not a specific disease, but that it might be caused, as he believed impetigo to be, by several different pyogenic organisms. There



were also some others who were in doubt about its being a specific disease. Raymond thought it ought not to be identified with impetigo, but that it should be described as related to impetiginous stomatitis. Comby and Sevestre, on the other hand, thought that there was no relationship with impetiginous stomatitis, but that it might possibly be related to impetigo. Later, Weill and Favre Gilly thought it related to desquamation of the tongue.

The last of the debates between the adherents of the staphylococcic theory and those of the streptococcic theory, came at the International Congress of Medicine in 1900. As previously stated, Lemaistre then said that he could not accept the conclusion of Raymond, Planche and Eymeri. He added that he had never seen perleche give rise to impetigo in schools; that good healthy children in the country may have perleche for months and years without the slightest sign of impetigo, and without giving to other children any disease except perleche; that he had never seen a case of perleche in the hospital at Limoges give rise to any cases of impetigo; and that though the two affections do at times develop side by side, he had never seen this take place; and that he believed there was no causal relationship between the two diseases.

Since 1900 the chief difference of opinion has been as to whether or not perleche is a specific disease, and whether or not it has been definitely proven to be a streptococcic infection, though all admit that the streptococcus is probably the causal agent.

Auché maintained that the streptococcus being the pathogenic agent of impetigo and of perleche, it would seem that the same microbe may give rise to these two varieties of lesions, whose co-existence has often been noticed.

Sabouraud said that there is no way, not even by cultures, in which the streptococcus of perleche can be distinguished from those found in folds of the skin affected with intertrigo. He considers perleche as an intertriginous, epidermic, streptococcic infection, which owes its peculiar appearance to its unusual location. As Sabouraud classes all intertrigos as impetigo, perleche is also an impetigo.

Audry classed perleche as a variety of impetigo.

Brocq also agreed with Sabouraud that the infectious agent is the streptococcus, and that consequently the affection should be classified as impetigo, since it has the same causal agent.

Darier was less positive and said that perleche appears to be a simple, regional, streptococcic infection.

The latest opinions are those of Cole and of Jadassohn, which were published at about the same time (1913). Their opinions were practically identical, and they agreed that the streptococcus has not been proven to be the causal agent, though the evidence is that it is very probably such.

Jadassohn's classification divided the pyodermic infections into two main groups (I) the staphylococcic, caused by the *Staphylococcus pyogenes aureus* and *albus*, and (II) the streptococcic, caused by the *Streptococcus pyogenes longus*. The streptococcus group was divided into two divisions, (A) circumscribed, (B) diffuse. In each of these divisions are five subdivisions, (a) epidermol, (b) epidermo-cutaneous, (c) cutaneous, (d) cutaneo-subcutaneous, and (e) subcutaneous.

In this scheme he placed perleche in the group of epidermal, circumscribed, streptococcic infections, not, however, without adding the qualification "perhaps."

**CLINICAL APPEARANCE.** Lemaistre excellently described the appearance of perleche, and but few points in the description of the disease have been added by later observers. It is a disease of the labial commissures, usually bilateral, and usually rather closely limited to the commissures. As the disease progresses the process extends for a varying distance toward the centre of the lips, and usually extends a little way on to the skin surface and on to the true mucous surface of the inner side of the lips. The epithelium is at first whitish, with a slight mother-of-pearl tinge. Later the epithelium becomes macerated and sometimes can be easily detached. Ordinarily the superficial layers of the epidermis are the only ones affected and the surface is not denuded. Frequently there are little cracks or fissures running in the direction of the commissural folds. These little fissures radiate, and when the child opens his mouth there is slight pain and occasionally there is slight hæmorrhage from them, though usually they are distinguished by the fact that they do not bleed readily. Usually there is no inflammatory area around the lesions, though rarely there is a slight inflammatory reaction. There is very rarely any considerable hypertrophy of the tissues affected, though in one case of very long duration Lemaistre saw considerable hypertrophy, the lesions having the appearance of small cock's-combs.

Raymond described it as beginning with a change in the epithelium of the commissures. The epithelium becomes white and slightly and irregu-

larly elevated without the formation of vesicles. There is a sort of pellicle which is folded and slightly raised by the maceration of the epidermis. The lesions are always at the angles, never in the centre of the lips, and are most always bilateral. After the lesion is healed, there is for several months a smooth, white, mother-of-pearl surface, which permits the recognition of the children who have recently been affected.

Jaja said that while it is usually located only at the commissures, it occasionally attacks the neighboring skin.

Epstein noted its resemblance to intertrigo in other locations.

Auché saw one case in which the lesion was in the middle of the lower lip.

Mention may be made of two descriptions in English works.

Taylor and Freeman in Sajous' Cyclopædia said that it "is characterized by the presence of ulcerations at the angles of the mouth."

Holt said that "the name was given to a form of ulceration occurring usually at the angle of the mouth. It begins in most cases as a small fissure, which, by constant licking and irritation, to which there is usually added infection, may produce an intractable ulcer of considerable size. The ulcer is of a grayish color, is quite painful, and is associated with considerable swelling of the lip."

These two statements agree with those of other writers, and with my own observations, only in respect to the location. They are certainly not correct descriptions of perleche, but, on the contrary, are excellent descriptions of what it is *not*.

**OTHER PHYSICAL SIGNS.** In a case of perleche not complicated with any other disease, as impetigo or stomatitis, there are no other physical signs. There is no glandular enlargement, no elevation of temperature. Negrié stated that excessive salivation is occasionally present.

**SYMPTOMS.** In the mildest cases there are no symptoms. As the disease develops, the little fissures and the occasional surrounding inflammation cause a slight burning sensation which makes the child run his tongue over the lesions. This sensation is never severe and never causes any pain unless the mouth is opened wide and the epidermis put on the stretch.

**DURATION OF THE DISEASE.** With treatment the lesions are usually healed in a few weeks. Untreated, Lemaistre gave the average duration of the disease as two weeks to a month, but added that some children are

affected for a year or more, perhaps on account of successive inoculations, as relapses are very common.

Auché said that occasionally the cases are very resistant to treatment and occasionally last a year or more.

DIAGNOSIS. The diseases mentioned by the various authors as likely to be confused with perleche, are herpes labialis, eczema, stomatitis and syphilis.

Herpes is usually unilateral, perleche almost always bilateral. Herpes forms a true vesicle, perleche does not. Herpes is not contagious, perleche is highly contagious. There is little similarity in the appearance of the two diseases.

Stomatitis presents other lesions in the mouth, and even when the two diseases are associated the differentiation should be simple from the appearance and the much more marked soreness of the lesions of stomatitis.

There is little resemblance to eczema. Eczema in this location is frequently unilateral, it has not the whitish appearance of the lesions of perleche, and the fissures are usually deeper and much more painful, with a marked tendency to hæmorrhage.

All are agreed that the resemblance of perleche to the mucous patch, or the "split papule" at the corners of the mouth is very great.

Raymond asserted that the resemblance between perleche and syphilis is so great that perleche is not to be differentiated objectively from the corresponding types of syphilis. One of Raymond's papers considered the medico-legal aspects of this resemblance.

Jacquet said that it is certain that the mucous patches of the commissures may create a very serious and important clinical difficulty, and that every child considered as afflicted with perleche should be carefully examined with a view to the possible existence of syphilis.

Fournier said that every practitioner who sees perleche for the first time never fails to take it for a mucous patch.

Fournier and Jacquet both thought that little dependance could be placed on the finer points of differentiation by color, depth or location of the lesions.

Tenneson agreed that, if the examination be limited to the commissures alone, the diagnosis between perleche and the mucous patch, is impossible. He thought, however, that the difficulties of the diagnosis had been exaggerated, for the difficulty disappears if the buccal cavity and the



whole cutaneous surface are explored, because secondary syphilis does not betray itself simply by a mucous patch of the commissure.

Brocq and Darier also said that mucous patches in this location are always attended by some other signs of secondary syphilis.

For the clinical descriptions of the lesions of syphilis, or of lesions which resemble syphilis, the time has not yet come when we can often do better than to quote Fournier. In this connection he wrote, "It is said 'it is impossible to differentiate it from a mucous patch.' That is true for a number of cases, but, it seems to me exaggerated for others. In fact, sometimes perleche consists only of a sort of maceration of the epithelium which whitens while at the same time remaining dry, adherent and, as it were, folded and ragged. Now, the mucous patch is always an erosion, a lesion denuded (*à vif*.) Even when covered with a coating, it is no less, and that visibly, an erosion deprived of epithelium and covered with a coating, which serves as a mask to the denuded surface;—and perleche is not always that.

"In any case, by common acknowledgment, the objective signs alone are in general incapable of differentiating perleche from the mucous patch. Now, as perleche has only objective symptoms, and as on the other hand its bacteriology is still undetermined, the diagnostic question is insoluble or is only susceptible of an indirect solution, after the determination of the syphilitic or non-syphilitic state of the patient. In brief, as a matter of fact, perleche cannot yet be affirmed except by *exclusion of syphilis*."

**PROPHYLAXIS.** All are agreed that the prevention of the use of common utensils that come into contact with the mouth, especially drinking cups, is the successful method of stopping the spread of the disease. Martinez reported the cessation of a troublesome epidemic in the schools of Buenos Aires after the installation of individual drinking cups.

**TREATMENT.** In nearly all cases a prompt cure is obtained by painting the lesions with a mild antiseptic, every day or every other day. The favorite drugs used are silver nitrate, 10%; a diluted tincture of iodine; the copper sulphate or alum pencil. Sabouraud in addition recommended antiseptic mouth washes. Auché recommended a 5% solution of chromic acid for the cases which resist the milder treatments.

#### OBSERVATIONS ON PERLECHE AS SEEN IN NEW HAVEN.

**INTRODUCTION.** My attention was attracted to perleche in this country in July, 1915, when I first saw it in this city. A slight search for cases since that time has shown that it is a common disease here. That this is so, has also been

confirmed by Dr. Henry Fleishner. Dr. Fleishner, who as a boy knew the disease in Germany and who has for many years had an extensive practice in New Haven, has seen many cases of it among the foreign population. Dr. Julia Teele, who is connected with the settlement work of the Lowell House has also been able to confirm my observations.

A few of the patients whom I have seen were children who came to the Dermatological Department of the Yale University Clinic. A few were found by following up the families of these patients. For the majority of them I am pleased to express my indebtedness to the Visiting Nurse Association and to Miss Degnan, of the staff of nurses of the New Haven Board of Health, detailed to school inspection, who kindly looked for cases and brought the patients to me for inspection.

The conclusions are drawn from the cases I have seen in a year and a half. The exact number cannot be given, for a considerable number of the patients had been seen before I had examined the literature, and having found none in English, conceived the idea of writing this paper; I am certain however that not less than forty or fifty cases have been seen.

For the same reason, some desirable details of race, age, character of houses inhabited, schools attended, etc., are lacking.

**BACTERIOLOGY.** The following summary of a preliminary study of twenty cases of perleche was furnished by Dr. C. J. Bartlett, Professor of Pathology in Yale University, School of Medicine. The bacteriological examinations were undertaken at my request about a year ago, with no idea of publishing the results.

I have thought that this summary would be of some value, even though the study is incomplete, and Dr. Bartlett has kindly allowed me to insert it. It is to be hoped that he will be able to complete the study at some later time.

**SUMMARY BY DR. BARTLETT.** "Cultures have been made in the Pathological Laboratory of Yale University, School of Medicine, from swabs taken from twenty cases of perleche by Dr. Lane. Two swabs came from each case, one from each side of the mouth. A mixture of two or more kinds of bacteria has been found in practically every case. But the only bacterium constantly present in all cultures was a streptococcus. In stained smears made direct from the swab this appeared as a non-encapsulated diplococcus or was in short chains. When obtained in pure culture and grown in liquid media it formed quite long chains of streptococci. On blood-agar plates it produced a slightly greenish color with little or no hæmolysis. Because of its constant presence this streptococcus is probably the causal factor of perleche, though attempts to reproduce the lesions at the angle of the lips of guinea pigs, by rubbing it into the tissue after superficial scarification, were not successful.

The other bacteria most commonly present, though by no means constantly so, were the *Staphylococcus aureus*, the *Staphylococcus albus*, a Gram negative coccus and *sarcina*."

**AGE OF PATIENTS.** No cases were seen in adults. All of the patients were of the school age or under. The oldest child was about twelve.

**NATIONALITY.** With but few exceptions the patients were of Italian parentage, but all were born in this country.

**APPEARANCE OF PATIENTS.** Without exception, the patients showed lack of cleanliness and many of them were decidedly filthy.

**SEX.** Children of both sexes were seen in about equal numbers.

**SEASON.** Patients were seen at all seasons of the year. The larger part of them were seen in the Fall, but no inference is to be drawn from this fact, as many of them were found by the nurse at the inspections which followed the opening of the schools.

**CONTAGIOUSNESS.** There were five cases in one family, and in several families there were two or three cases.

**ASSOCIATION WITH OTHER DISEASES.** In no case was perleche associated with any of the diseases mentioned by the authors consulted. Not only were no patients found with mouth lesions of any sort, but there was not one who had any signs of impetigo, although all of the patients were from the neglected class in which impetigo is most frequently seen. In most of the cases there was no other disease present. The five children of the same family, already referred to, who had perleche, also had favus. There were four more children in the same family, but I was never able to find them in calls at their home, and so did not discover whether they were also affected either with perleche or with favus. There were also two other patients with perleche, in other families, who also had favus.

As I had seen no mention of this association of diseases, I examined the scrapings of several of the perleche lesions for the achorion, but as was to be expected, no fungi were found.

One child had ringworm of the scalp (kerion).

A number of the children had pediculosis capitis, but this is an almost normal occurrence in the class of patients seen.

**CLINICAL APPEARANCE.** The clinical appearance of the cases agreed with the descriptions by Lemaistre and other authors quoted. Cases of varying severity were seen, but there was none of the severest type described by Lemaistre, in which there was considerable hypertrophy at the site of the lesion.

The lesions were bilateral with the possible exception of one case. This patient was nearly well and showed no signs of any lesion in one of the commissures. This is very likely explainable by an earlier healing and disappearance of traces of the lesion, on that side.

The lesions were in all cases limited to the vicinity of the labial commissures. No trace of any could be found toward the middle of the lips, either lower or upper.

In the early and mild cases (Fig. 1) the lesions were limited to a line of varying width and length in the centre of the commissure, which could not be seen when the mouth was closed. In these cases the epithelium was smooth and unwrinkled, the surface not elevated and the epithelium unbroken. The color much resembled that of mother-of-pearl.

In the fully developed case (Figs. 2 and 3) the lesions extended a short distance on to the skin surface and on to the mucous membrane. The lesions could be seen when the mouth was closed. The epithelium was wrinkled, slightly elevated in spots, with transverse fissures, which in a few cases showed a reddish base. Occasionally there were small areas on which the epithelium was lacking, but in no case was there anything resembling an ulceration, i. e., the dermis was not involved. The epidermis was thickened and more or less macerated and in some instances small pieces could be detached with a cotton swab. There was no hemorrhage from the fissures and the lesions could be rubbed quite vigorously with the swab without the appearance of any bleeding. The color was less like that of mother-of-pearl and was rather of a dirty white.

In some instances, just at the outer edges of the lesion surrounding the commissures there was a narrow wall or elevation. This was of a dark color and composed of dirt which had lodged at the edge of the lesion and had been allowed to accumulate.

In these fully developed cases the resemblance to the mucous path was striking, yet the lesions were dry, in the sense that they did not ooze even when rubbed.

As the lesions began to heal their appearance approached that described in the early cases. The thickened, rough epithelium and the fissures gradually disappeared and finally nothing was left but the mother-of-pearl color which remained for a month or more after all other signs had disappeared, and finally faded away.



I have seen no scars from the fissures of perleche and I have seen no statement that they leave any scars and from the character of the lesion none would be expected. Frequently, after the healing of mucous patches of congenital syphilis the fine radiating lines about the lips, described by Parrot, are left as indelible evidence of that disease.

**SYMPTOMS.** Symptoms were entirely lacking or limited to a very slight burning. In the milder cases there seemed to be no tendency for the child to run the tongue over the lesions, while in the more developed cases this was frequently quite noticeable. No cases with excessive salivation were noticed. Observation and inquiry revealed no inclination on the child's part to rub or pick the lesions and there were no signs that they had been rubbed or scratched.

**OTHER PHYSICAL SIGNS.** The absence of other physical signs, which had been noted by previous observers, was complete in the uncomplicated cases of perleche. In some of the children enlarged glands were found in the neck, but in every case sufficient cause could be found for the enlargement. In most cases diseased tonsils or adenoids were responsible.

**DURATION.** The cases responded promptly to treatment in a few weeks. One mild case which was left untreated for observation showed the mother-of-pearl discoloration at the commissures over a year after he was first seen.

**DIAGNOSIS.** The statements made by various authors in regard to the diagnosis were in accord with my observations. Nothing except syphilis could be seriously considered in making a differential diagnosis. In the mild cases there would have been little danger of confusing the lesion with that of syphilis by an experienced observer. In the more developed cases it would have been impossible to differentiate the diseases from the appearance of the lesions alone. In no case was there any doubt after a thorough examination of the patient. In a larger series of cases there would certainly, as Fournier and others have said, be some that it would be difficult or impossible to settle by a physical examination. But with the Wassermann reaction and the dark field there should, at the present time, be no difficulty in arriving at the correct diagnosis in doubtful cases. If any doubt still existed treatment of the lesions would promptly settle the question.

After healing, there are no scars left by perleche, and the presence of Parrot's lines would make a diagnosis of a preceding mucous patch certain.

**CLASSIFICATION.** The best classification of perleche appears to be that of Cole and Jadassohn, which places it in the streptococcic infections, with the reservation that the streptococcic origin is not absolutely proven.

To identify perleche with impetigo, as does Sabouraud, seems to me to be hardly warranted at present, for the following clinical reasons, in addition to the lack of absolute experimental proof that it is due to a streptococcus.

(1). While the two diseases undoubtedly do occur together, most observers believe that such association is no more frequent than can be accounted for by coincidence, and Lemaistre, who saw a larger number of cases of perleche than any other observer, had never seen them develop together. My own cases are too few to prove anything, but nevertheless it seems strange that, if the causal agent were the same, none of the forty or fifty children with perleche should have had impetigo, especially as they were all of the neglected class among which impetigo is most common.

(2). In the cases of perleche that extend on to the skin surface there has, in my cases, never been the slightest resemblance to impetigo. The lesion keeps the same characteristics as when confined to the mucous membrane. In like manner impetigo at the corner of the mouth in my experience, has not the slightest resemblance to perleche, even when it extends on to the vermilion border of the lips. I am also sure that in the majority of cases of impetigo that I have seen in this location, the lesion stops at the edge of the skin and does not extend to the red surface.



It would seem that, if the causal agent were the same, perleche and impetigo would be frequently associated at the angles of the mouth, and that the appearance of the two diseases in this location would not be so entirely different. It may be, that while both are caused by streptococci, a different variety, or a combination of several organisms, causes perleche. The difficulties of determining the causal agent or agents in this contaminated location are great. Until the question can be settled by reproduction of the disease in animals or human beings the cause cannot be said to be definitely proven.

CONCLUSIONS. (1) Perleche is probably a streptococcic infection. (2). While there is no information as to its prevalence in this country, it seems probable from the fact that it is common in New Haven, that it exists in other parts of the country, especially in cities having a large foreign population.

## BIBLIOGRAPHY.

1. AUCHÉ. *Etude anatomo-pathologique de la perleche. Jour. de méd. de Bordeaux*, 1906, xxxvi, p. 205.
2. AUCHÉ. Contribution à l'étude bactériologique de la perlèche. *Jour. de méd. de Bordeaux*, 1908, xxxviii, p. 309. Also in *Ann. de méd. et chir. inf.*, 1908, xli, p. 372.
3. AUDRY. In Audry, Durand et Nicolas: *Traitement des maladies cutanées et vénériennes*. Paris, 1909, pp. 76, 78.
4. BROcq. *Traité élémentaire de dermatologie pratique*. Paris, 1907, i, p. 760.
5. BUREAU ET FORTINEAU. *Recherches bactériologiques sur la perlèche. Presse méd.*, 1902, lii, p. 747.
6. CAMBA (or Chamba?). *Épidémie de desquamation linguale associée à la perlèche*. Lyon, 1905. (Not accessible).
7. CHATELAIN. *Précis iconographique des maladies de la peau*. Prias, 1910, p. 662.
8. COLE. Bacteriologische, histologische und experimentelle Beiträge zur Kenntnis der Ekzeme und der Pyodermien. *Arch. f. Dermat. u. Syph.*, 1913, cxvi, p. 207.
9. COMBY. Une nouvelle affection parasitaire de l'enfance, la perlèche. *Progrès méd.*, 1886, iv, p. 597. (A critical review of Lemaistre's first article.)
10. *Idem*. Translated by Campbell: Perlèche. A new parasitic disease of children, *Buffalo Med. and Surg. Jour.*, 1886-7, xxvii, p. 68.
11. COMBY. In Grancher, Comby et Marfan: *Traité des maladies de l'enfance*. Paris, 1898, ii, p. 334.
12. DARIER. *Précis de dermatologie*. Paris, 1909, p. 525. Also translated as: *Grundriss der Dermatologie*, Berlin, 1913, p. 392. (Translation by Zwick, notes by Jadassohn.)
13. DESFOSSES. *Traitement de la perlèche. Presse méd.*, 1897, x, p. 242.
14. EPSTEIN. Ueber "Faule Ecken," d. i. geschwürige Mundwinkel bei Kindern. *Jahrb. f. Kinderh.*, 1900, li, p. 317.
15. EXMERI. *La perlèche. Etude bacteriologique*. xiii, congrès internat. de méd. Paris, 1900, p. 530.
16. FOURNIER. *Traité de la syphilis*. Paris, 1909, i, p. 502.
17. GAUCHER. *Maladies de la peau*. Paris, 1909, p. 378.
18. GUIBERT. *De la perlèche*. Thèse no. 142, Toulouse, 1896.
19. JACQUET. In Besnier, Brocq et Jacquet: *La pratique dermatologique*. Paris, 1902, iii, p. 839.

20. JACQUET. Nature et traitement de la pelade d'origine dentaire. *Ann. de dermat. et de syph.*, 1902, ii, p. 97, and in following numbers.
21. JADASSOHN. Notes in Darier: *Grundriss der Dermatologie*. Berlin, 1913, pp. 392, 395.
22. JAJA. Contribuzione clinica allo studio dell'affezione speciale del labbro inferiore osservata nella stagione estiva in recanti e paesi finitimi. *Gior. ital. d. mal ven.*, ed. pel. 1887, xxii, p. 216.
23. LELOIR. Des pyodermites. *Jour. mal. cut. et syph.*, 1893, v, p. 385.
24. LEMAISTRE. (Discours d'ouverture de l'école de médecine de Limoges.) De la perlèche et du streptococcus plicatilis, November, 1885, Limoges, Ducourtieux, éditeur. (Not accessible.)
25. LEMAISTRE. Etude sur l'air de la ville de Limoges, de la perlèche, du streptococcus plicatilis. Discours prononcé à la séance de rentrée de l'Ecole de Médecine. *Jour. soc. de méd. et de la phar. de la Haute-Vienne*, 1886, x, p. 41, and in following numbers. (Same article as No. 24.)
26. LEMAISTRE. De la perlèche, xiii congrès internat. de med., Paris, 1900, p. 532.
27. MALHERBE. La perlèche. *Gaz. méd. de Nantes*, 1895-6, xiv, p. 69.
28. MARTINEZ. Las enfermedades contagiosas de los niños, Buenos Aires, 1896. Cited by COMBY: *Traité des maladies de l'enfance*, loc. cit. (Original not accessible.)
29. VON MIKULICZ UND KÜMMEL. Die Krankheiten des Mundes, iii Auflage, 1912, p. 210.
30. NEGRIÉ. Note sur la perlèche. Congrès périodique de gynécol., d'obstét. et de pédiat., Bordeaux, 1895, p. 1002.
31. PLANCHE. La perlèche. Thèse de Paris, 1897, Jouve, éditeur.
32. RAYMOND. Etude clinique et bactériologique sur la perlèche. *Ann. de dermat. et de syph.*, 1893, p. 578. Also in *Bull. soc. franc. de dermat. et de syph.*, 1893, p. 289.
33. RAYMOND. La perlèche en médecine légale. *Bull. méd., Paris*, 1897, xi, p. 265.
34. SABOURAUD. Article on Impetigo in Besnier, Brocq et Jacquet: *La pratique dermatologique*, ii, pp. 873, 880, 914.
35. SABOURAUD. *Dermatologie topographique*. Paris, 1905, p. 81.
36. SABOURAUD. *Entretiens dermatologiques*. Paris, 1913, p. 296.
37. SEVESTRE ET GASTOU. Sur une variété de stomatite diphtéroïde à staphylocoques. *Bull. et mém. soc. méd. d. hop. de Paris*, 1891, p. 316.
38. SOLARO. Sulle ulcerazioni degli angoli della bocca dei bambini. *Pediatrica*, Napoli, 1900, viii, p. 285.
39. TENNESON. Des stomatites. La perlèche. L'impétigo. *Rev. gén. de clin. et de thérap.*, 1894, ix, p. 497.
40. WEIL ET FAVRE GILLY. Epidémie de desquamation linguale associée à la perlèche. *Ann. de méd. et chir. inf.*, 1906, x, p. 357. Also in *Bull. soc. de pédiat. de Paris*, 1906, viii, p. 167.
- B. STELWAGON. *Diseases of the Skin*.
- C. SUTTON. *Diseases of the Skin*.
- D. HOLT. *Diseases of Infancy and Childhood*.

#### BOOKS IN ENGLISH TO WHICH REFERENCE HAS BEEN MADE.

- A. PUSEY. *Principles and Practice of Dermatology*.
- E. GREEN'S *Encyclopedia of Medicine and Surgery*, 1908, ix, p. 339.
- F. TAYLOR AND FREEMAN. In Sajous' *Analytical Cyclopædia of Practical Medicine*, 1914, vi, p. 727.



Figure 1.



Figure 2.



Figure 3.

(Courtesy of Dr. George M. MacKee.)

## SPOROTRICHOSIS.

A CLINICAL AND HISTOPATHOLOGICAL REPORT OF THE FIRST CASE TO BE  
PUBLISHED IN NEW ENGLAND.

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Although nearly twenty years have elapsed since Schenck<sup>1</sup> first reported, in 1898, the occurrence of sporotrichosis, the American literature to-day contains but a few more than fourscore cases. Of this scanty number only about fifty have been proven culturally. Two years after Schenck's discovery the second proven American case was observed by Hektoen and Perkins.<sup>2</sup> In 1904 a third case was reported by Quain.<sup>3</sup> Since that time, each year has brought out new cases and steadily widened the known area of its incidence.

The European dermatologists, under the leadership of de Beurmann and Gougerot, have seized upon this American discovery with avidity and it is through the investigations carried out on the other side of the water that our present knowledge of the disease has principally developed. Several hundred cases, together with a more or less conflicting mass of bacteriological and clinical data, have been contributed to the literature. De Beurmann believes he has isolated a sporotrichum, bearing his name, which differs in minor morphological and cultural characteristics from the sporotrichum Schenckii. Notation by other observers of varying differences from the original fungus described by Schenck has resulted in several sub-types.

The usual American case has been one of lymphatic involvement of the arm with a slight injury acting at the point of entrance of the infection. French observers report cases in which the development of the disease results in ulcerations, "syphiloid" in type, or in papillomatous over-growths that have a distinctly tuberculous appearance. This mycosis has occurred in the periosteum of bones, in the tonsils and buccal surfaces, on the conjunctivæ and in various viscera.

In 1915 Meyer<sup>5</sup> presented an elaborate table of the chronological and geographical distribution of the 82 American cases reported up to the end of May of that year and of these 82 cases, 50 were recorded as



being proven by culture. The various states, with the number of cases reported, are as follows:

States	Total No.	Proven by culture
California	1	1
District of Columbia	1	1
Illinois	3	2
Indiana	2	1
Iowa	2	2
Kansas	13	8
Minnesota	2	2
Missouri	9	8
Montana	1	1
Nebraska	8	4
New Jersey	1	0
New York	2	2
North Dakota	22	7
Ohio	1	1
Pennsylvania	3	3
South Dakota	5	4
Texas	1	1
Virginia	1	0
West Virginia	1	1
Wisconsin	1	0
Canada	2	1
	<hr/> 82	<hr/> 50

This list has been increased by two cases, an additional one in New York state, as reported by Finch<sup>6</sup>, and Freeman's<sup>7</sup> case in the state of Tennessee, both culturally proven. In 1910 Hyde and Davis<sup>8</sup> made a very comprehensive review of the subject up to that time. New clinical and histopathological data were given and the relation of this disease to mycotic lymphangitis in horses discussed. To this group of American cases I wish to add a new example of this mycosis with the clinical and histological findings, the first to be reported as occurring in the New England States.

#### REPORT OF CASE.

The patient was an American boy of fifteen years, born in Somerville, Mass., and a resident of Cambridge, Mass., for the past twelve years. At no time has he ever been outside of the state or more than twenty-five miles away from home.

His mother died several years ago of an unknown cause. With his father and three brothers, all living and well, he makes his home with his uncle and aunt. He has always lived in a thickly settled part of the city, has never engaged in agricultural work and has attended school regularly.

In view of the fact that the sporotrichum occurs in horses and in decayed vegetable matter, it is interesting to note that his father and uncle are employed as driver and helper on a Cambridge garbage cart. The patient has never visited the stable or helped to collect garbage but has occasionally petted

the horse when standing outside his home. The horse was not examined but was stated by the father to be sound in every way.

The patient is a well developed and well nourished boy who has never been sick before, with the exception of measles and eczema in infancy. Aside from the lesions of the present illness, the physical examination is absolutely negative.

The infection started in the middle of August, 1916, about the nail of the right forefinger. The boy could not remember having received any previous injury at this point. The process resembled a "wart" for a week and at the end of this time pus oozed out, the finger started to swell and a pea-sized, red nodule appeared on the back of the hand. The boy was treated in the Surgical Out-Patient Department of the Massachusetts General Hospital, where the lesion was regarded as a paronychia and received hot fomentations, balsam of Peru and various other dressings. This régime continued for two weeks, at first with considerable improvement but at the end of this time the swelling and pus involvement increased and the finger was opened and drained under gas anæsthesia. The boy says that he was totally unaware of the development of further nodules up the arm until they were discovered by the surgical house-officer in the course of his dressings. He was transferred to the Skin Department, where sporotrichosis was at once suspected and later confirmed by cultural findings. The patient was then admitted to the skin ward of the hospital and stayed eight days. Under fifteen drops of potassium iodide, three times a day, the nodules subsided, leaving only discoloration at the sites of occurrence. On his return home the boy neglected to continue his medicine and the nodules returned in the course of ten days.

Potassium iodide was again given in the same dose, but the nodules did not clear up as readily as on admission. Most of them broke down into fairly deep, sloughing ulcers. In the course of ten or twelve weeks the ulcers slowly healed by granulation under increased doses of iodide and the local application of tincture of iodine.

About the first of December the boy developed a swelling under the chin, in the median line. In the course of two weeks this grew to the size of a half orange. The tumor was painless, sharply bounded, very hard, and unattached to the tracheal structures or to the skin. Two weeks after its discovery it was excised by the surgeons under local anæsthesia. The tissue, without data, was turned over to the surgical pathologist who diagnosed the condition as "malignant lymphoma." Cultures made from the tumor cavity were sterile. The incision wound healed by first intention.

X-ray plates were made of the chest for the purpose of determining the question of further lymphatic involvement. The report was as follows:

"The lung markings are distinctly thickened and there are calcified glands at the roots. Small dense areas are seen along the course of the bronchi. Markings running to the right apex are distinctly increased."

The appearance of the skin lesions on entrance was as follows:

About the nail on the right fore-finger was a subsiding paronychia, somewhat hypertrophic process with some crusting and granulation tissue. A new nail was growing in. The nodules extended from the first joint of the finger to the upper third of the upper arm. On the inner surface of the upper arm a lymphatic vessel could be felt as a hard cord extending well up into the axilla. The glands were not involved. The nodules were fairly soft, nontender, bluish-red in color and varied in size from a pea to a hazel nut. Their distribution was as follows: a single small nodule at the first knuckle, another at the right elbow and a third in the middle of the upper arm. The largest lesion, from which the cultures were made, was on the back of the hand. In addition to these single nodules a group of seven smaller lesions, within an area three by five inches, was situated in the middle of the right forearm.

**CULTURES.** Cultures were planted on potato and slant tubes of 2% dextrose-agar. The tubes were lightly stoppered with cotton and kept at room temperature. At the end of six days a pure growth of the sporotrichum Schenckii was obtained in all tubes.

The growth upon the dextrose-agar appeared as small, white, round colonies with tiny peripheral radiations. After five days the colonies increased rapidly in size and the color changed to a light brown. Upon the potato cultures, the colonies were more corrugated and of a darker color from the start. The colonies subsequently took on a glistening, shiny look and had the appearance of a mass of small worms.

Smears showed an abundant growth of mycelium and spores. The mycelium was branched and divided into segments of various lengths in which occasional dark granules were seen. The spores were found free or attached to the branches and grew in clusters and singly. They varied in size and shape considerably.

**HISTOPATHOLOGY.** The following histopathological examination was made by Dr. Charles J. White, to whom I am also indebted for the opportunity of reporting this case which occurred on his service in the Skin Department of the Massachusetts General Hospital:

The epidermis shows nothing remarkable. It is not absolutely intact, but the changes are slight. The subpapillary layer presents no alterations in texture or in retaining qualities but there is a distinct perivascular infiltration, mostly of lymphocytes.

The derma proper exhibits a very different condition. Here there is much to note. Many of the collagenous fibres show a distinct tendency toward basic staining. Sweat and sebaceous glands are normal save for the perivascular infiltration of their satellite vessels.

Throughout the derma there are many vessels, all engorged with red cells and surrounded by lymphocytes. In the essential lesion of the process which will be described later and beyond its periphery, there are evidently many new vascular formations and even they are filled with erythrocytes. Here and there are foci, some large and some small, of extravasated red cells.

The essential lesion of the process is a large accumulation of cells scattered at intervals and at rather diverse levels throughout the deep corium and in the panniculus adiposus. The composing cells are almost entirely lymphocytes but an occasional plasma and a rare mast cell can be found. There is no regular shape to these areas but their boundaries are sharp, and scattered abundantly among these cells are newly-formed capillaries solidly packed with red cells and exhibiting such regular nuclear distribution in the cells of the vessel wall that the whole picture

under the lower power of the microscope is extraordinarily like that of multiple giant cells. No spores or mycelium were found.

In conclusion, the picture presented in this case is that of lymphoma and it is a curious fact that a large, sharply bounded mass which subsequently developed under the boy's chin and was excised by the surgeons and examined by the surgical pathologist, was diagnosticated by this independent observer as malignant lymphoma.

#### REFERENCES.

- <sup>1</sup> SCHENCK. *Bull. Johns Hopkins Hosp.*, ix, p. 286.
- <sup>2</sup> HEKTOEN AND PERKINS. *Jour. Exper. Med.*, 1900, v, p. 77.
- <sup>3</sup> QUAIN. *St. Paul Med. Jour.*, 1904, vi, p. 615.
- <sup>4</sup> DE BEURMANN AND GOUGEROT. *Ann. de dermat. et de syph.*, 1906, pp. 837, 914, 933. *Bull. soc. med. d. hop. de Paris*, 1907, p. 585.
- <sup>5</sup> MEYER. *Jour. Amer. Med. Assn.*, 1915, lxxv, p. 579.
- <sup>6</sup> FINCH. *Proc. N. Y. Path Soc.*, 1914-1915, N. S., xiv, p. 14.
- <sup>7</sup> FRIEDMAN. *Jour. Tenn. State Med. Assn.*, 1915, viii, p. 303.
- <sup>8</sup> HYDE AND DAVIS. *Jour. Cutan. Dis.*, 1910, xxviii, p. 321.

#### KEY TO PHOTOGRAPHS.

FIG. 1. Remains of primary focus of infection and developing nodules along the arm.

FIG. 2. (x 500). *Sporotrichum Schenckii*. Shows branching mycelium and clustered spores.

FIG. 3. (x 500). *Sporotrichum Schenckii*. Shows segmented mycelium with dark granular bodies.

FIG. 4. Appearance of cultures on dextrose agar and potato.





Figure 1.

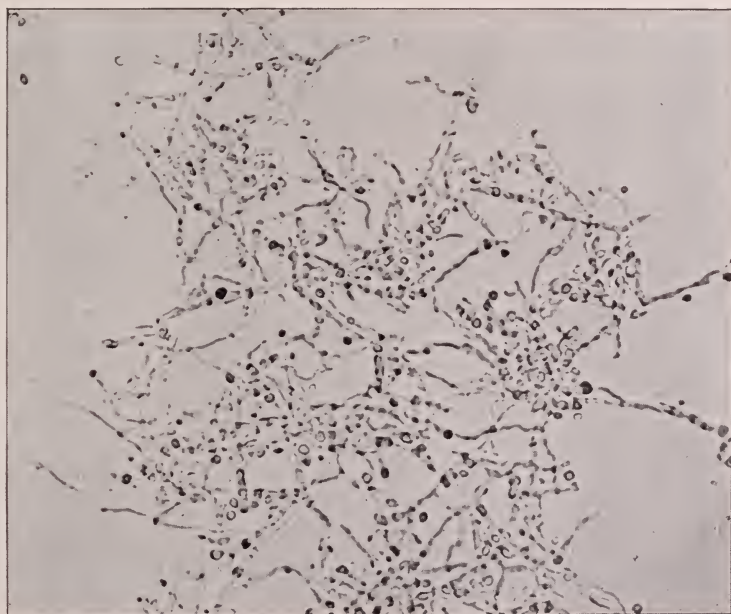


Figure 2.



Figure 4.

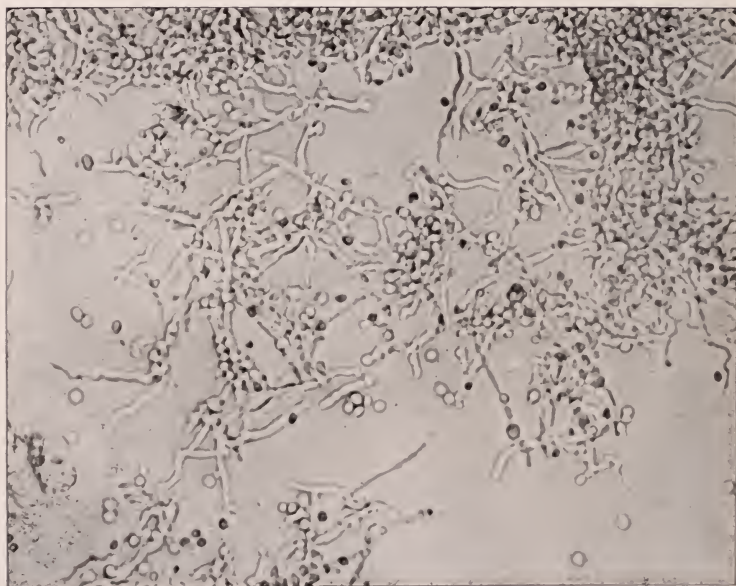


Figure 3.

SOME OBSERVATIONS UPON THE SKIN DISEASES OF  
PORTO RICO.\*

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Porto Rico, lying on the eighteenth degree of latitude, comes within the geographical boundaries of the "tropics," and the prevalent American idea fed by popular fiction, pictures the West Indies with a hazy mixture of extreme heat, palm trees and scantily clad "natives," with dread diseases of all kinds lurking in all corners.

In Porto Rico, palm trees are plentiful to be sure, but the climate, while warm, is tempered by sea breezes along the coast and by the altitude in the interior. It is seldom sultry even in the hottest months and the summer averages cooler and more pleasant than in the United States; there being but comparatively slight difference between summer and winter, the climate is monotonous and the uninterrupted warmth probably has important ætiologic influences acting directly or indirectly through its effect upon the susceptibility of the person, upon the organisms which cause disease, or upon the agencies which may transmit disease.

The people of Porto Rico are descended from two principal sources: the European settlers, chiefly Spanish, and the slaves imported from Africa; the aboriginal element having been so nearly exterminated in the early days of colonization that it may practically be ignored. A fairly numerous foreign contingent is composed of Europeans and Americans and a recent immigration of a few thousand negroes from other West Indian islands. We have therefore in Porto Rico a mixed population, the white race greatly predominating, the black race in much smaller number and a large element of the mixture of the two races in varying proportion. The habits of the people and the conditions under which they live and work are those of the tropics rather than of the temperate zones and apparently most tropical diseases, including those of the skin, should find suitable conditions for development. At the same time, the island is not so far removed geographically, climatically,

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\*(From the Institute of Tropical Medicine and Hygiene of Porto Rico.)

or in other respects, from temperate climes but that diseases of those regions might also find conditions more or less suitable to them.

This brief mention is made concerning Porto Rico, its climate, people, etc., because so few persons have any adequate idea of the place and I believe that it will afford a better appreciation of the diseases under discussion.

For the purpose of obtaining a general idea of the diseases prevalent among the people of the interior of Porto Rico, the Institute of Tropical Medicine and Hygiene of Porto Rico, in 1913, established a temporary, free clinic near the town of Utuado. During a period of ten weeks, over 10,000 patients were registered at the clinic, the vast majority of whom were victims of the hookworm (*Necator americanus*) and other intestinal parasites, who were treated in a special department. Patients with other diseases were taken up as they chanced to come, upon the personal register of the member of the Institute who treated them. Of the 341 cases which fell to my lot, I noted in 86 instances the presence of skin lesions of more or less importance. Their number and variety forcibly attracted my attention and my interest in this branch of tropical diseases continued after returning to San Juan, where laboratory facilities were at hand. Thanks to the courtesy of various professional friends, I have been able to see a considerable number of cases, not only of diseases confined strictly to the skin but also the cutaneous manifestations of those of a general systemic nature. Although, to do it justice, the subject requires a specialist in Dermatology, I hope that these observations as briefly presented will not be without interest.

**ECZEMA.** Easily first in point of frequency and importance, this cosmopolitan disease constituted between 30 and 40% of the cases; about the same ratio, I understand, that is encountered in the United States. It presents the same protean character as in temperate countries and in my experience, in Porto Rico at least, I could not see that the differences in climate and other tropical factors materially affect its clinical appearance. Among these cases were represented practically all the usual types of the disease and not a few of the rarer varieties. The form most commonly encountered was the vesicular; an irregular area of acutely inflamed skin showing numerous fine vesicles which easily rupture and leave a crusted or weeping surface. Itching, usually marked, may be slight, and in one instance was absent until the lesion began to dry.

Squamous eczema is not uncommon, particularly upon the hands and



feet, in which location it must be differentiated from infection by a common tropical fungus, the *Epidermophyton cruris*, which shows a decided tendency to attack these parts and to the production of very similar lesions. Usually distinguishable by differences in clinical appearances, yet the resemblance may be so close that certainty of diagnosis can be had only by the use of the microscope. Eczema intertrigo is naturally quite common in a warm country, among persons who perspire freely, and here again difficulty in diagnosis may be due to the same fungus infection, tinea cruris, the so-called "dhobie itch." Infantile eczema is frequently seen, especially in poorly nourished subjects and in Porto Rico as in other places, it shows the same preference for the face and scalp and the same tendency to the pustular form.

In extent, the lesions in my cases of eczema have varied from a single small patch with comparatively mild symptoms to a generalized eruption that caused extreme suffering. In the order named, the parts most frequently attacked have been the face, scalp, hand and forearm, foot and leg.

Diagnosis is based upon the same evidence as in eczema in other countries, but the importance of the use of the microscope and even cultures should be emphasized. Diseases of the skin due to fungi are more common in warm countries and the clinical features may so closely resemble eczema that a diagnosis may be impossible without laboratory aid. Furthermore, eczematous inflammation may supervene in a disease primarily parasitic, altering its appearance and symptoms so radically that the original disease may not be recognized. This is particularly true of tinea cruris.

PYOGENIC INFECTIONS. In a country where the habits of a large proportion of the people, as well as the nature of their labor expose the skin constantly to irritation, traumatism and other opportunities for infection, it is not surprising to find pyogenic diseases of the skin in great abundance and of every degree. Not only are the chances of infection more abundant, but more people than in colder climates have a weak resistance against such infection. I think the belief in this greater susceptibility, even in persons native to the tropics, is quite generally held by physicians practicing in these countries. It might be thought that the native-born, especially those whose ancestors for several generations lived under the same conditions, should have become so thoroughly acclimatized that their resistance would be higher. However that may be, it is a common observation even by the layman,

that many Americans on going to Porto Rico have an increased tendency to suppuration, as evidenced by the appearance of acne or its increased severity if already present, and the greater readiness with which small wounds, abrasions, insect bites, etc., form pus. On the other hand, clean surgical wounds heal readily, if infection is prevented.

Boils and small skin abscesses are very common, frequently multiple and show a pronounced tendency to recur in successive crops; carbuncles are fortunately less frequent. In both these affections, the use of stock vaccines imported from the United States or Europe has given good, sometimes brilliant results, a fact which would seem to indicate that they are not due to any special tropical organism.

Ecthyma is occasionally seen, and impetigo contagiosa much more frequently. Ordinarily the cases do not differ materially from those seen in the United States, but at times atypical cases are encountered, some of which are worthy of mention. One presented a single lesion on the neck, a large pemphigus-like bleb. Another was notable on account of its mixture of vesicles, crusts and circinate patches and its strict limitation to the right axilla as shown by the accompanying photograph. (Fig. 1). An anomalous form, resembling the circinate type, was seen in two children, sisters. The initial vesicular lesions were small and soon ruptured, leaving circular, abraded spots which enlarged to one or two centimeters. There was but very scanty sero-purulent exudation and scarcely appreciable crusting, and in appearance they could easily have been mistaken for ringworm. Auto-inoculation had distributed the areas over the body and limbs. All of these cases were negative for fungus, had practically no sensory symptoms and disappeared rapidly with the use of an ammoniated mercury ointment.

The description of "pyosis tropica" as given by Castellani and Chalmers<sup>1</sup> fits quite well a number of cases seen at the Utuado clinic. Particularly upon the legs, there were numerous, irregular areas covered by dirty crusts and scabs of dried pus, beneath which was superficial ulceration. The margins were usually rounded, slightly elevated and somewhat congested, while the surface showed pale, flabby granulations sometimes raised in nodules. It was very chronic and rebellious to treatment.

One case of typical "purulent folliculitis" was also seen at that clinic. The extensor surfaces of both thighs were thickly studded with small discrete pustules, each pierced by a hair. The skin presented a thickened, glazed appearance and the dull red, dusky color of chronic congestion.

The condition described in the same textbook as "dermatitis rimosa of the toes" has occasionally been observed in San Juan in Americans and Porto Ricans. I have noted it associated with eczema and fungus infections and also without any apparent pre-existing condition. It begins with intense itching; the softened epidermis is quickly scratched off and the skin becomes excoriated, fissured and quite painful. There is great liability to recurrences. Excessive perspiration seems to favor its production and, in one case, recurrence was prevented by keeping the part well dusted with talcum and boric powder.

Acne is very prevalent in all classes, among Porto Ricans as well as others, and it is not unusual to have Americans, especially women, upon coming to Porto Rico, complain of the appearance of acne from which they never had suffered in the United States, or if they did, the disease became worse and showed a marked tendency to pustulation.

Suppuration is very liable to occur in wounds, scratches, insect bites, etc., unless measures are taken to prevent it.

**ULCERS.** The bewildering number and variety of ulcers which are seen in tropical countries makes it seem almost impossible to classify them as to clinical types or causative agents. So many are the variations in the course and appearance of the sore, due to the modifying influence of additional infections, local irritation, state of general health, injudicious treatment, etc., that two ulcers due to the same cause may appear widely different. It is not surprising, therefore, that while the literature upon this subject is extensive, the classifications and descriptions of skin ulcers in text-books and periodicals, are not in accord, and are often so indefinite and overlapping that a given ulcer may seem to be covered by several different diagnoses.

Of the numerous skin ulcers coming under my notice in Porto Rico, the vast majority have seemed to be due to ordinary pyogenic infection. The presence of pus organisms can be demonstrated in material from practically any open sore; hence in itself this fact is of little diagnostic value, and the clinical appearance may be exceedingly deceptive in individual cases. The diagnosis then, that a given ulcer is due to pyogenic infection must, in many cases, be made by exclusion, after determining the absence of particular parasites capable of causing ulceration; the absence of distinctive clinical features such as the ulcerated nodules along the lymphatics in sporotrichosis; and the exclusion of general diseases like syphilis, leprosy and others having ulcerative manifestations. Appropriate local antiseptic application, combined,

when needéd, with vaccinal and constitutional treatment, may confirm the diagnosis.

The leg and the foot were the most common sites of these septic ulcers. Country people as a class go barefoot, thus exposing these parts to traumatism and contamination. Few if any countries have as great a percentage of the population victims of uncinariasis as has Porto Rico; and the ground-itch, due to the penetration of the skin by the larvæ of the worm, seldom escapes secondary infection, which frequently results in ulceration. Neglect or improper treatment, additional infection, and a lowered state of general health due to anæmia, tuberculosis or other causes may readily explain the chronicity and altered appearance of a simple pyogenic ulcer.

Is there a true "ulcus tropicum," an ulcer peculiar to tropical countries having clinical features or a causative agent which distinguishes it from other ulcers? Workers in tropical medicine do not seem to be agreed upon this point and the term "tropical ulcer," a rather tripping and euphonious name which catches the ear and tongue, has been loosely applied to many ulcers, chiefly because they have been observed in the tropics. Others would limit this diagnosis to ulcers of a distinctive appearance or to those showing some particular organism, notably the association of spirochætæ and fusiform bacilli. Among the believers in the clinical entity of "ulcus tropicum" are those who regard "hospital phagedæna" as identical with it, an opinion disputed by others who nevertheless admit that *ulcus tropicum* may take on a phagedænic process. Stitt<sup>2</sup> describes two types of ulceration which he found in the tropics but apparently does not regard "ulcus tropicum" as a separate disease.

I can not say that I have found any distinctive predominating type of ulcer in Porto Rico. Rarely is it possible to see them in the initial stages and to follow their course, and the histories as given by the patients untrained in clinical observation, are not to be depended upon for accuracy. Ulcers coming under my observation have usually been well developed, more often single than multiple, and varying greatly in size, shape and general appearance. When of more recent date they were liable to be more frankly inflammatory, painful, actively suppurative and often showing abrupt and undermined edges. On the other hand, those of long standing were more indolent, less painful, with granulations pale and flabby, the margins generally somewhat raised, indurated, smooth and rounded, often with some attempt at scar for-



mation. The surrounding skin had a tense, glazed appearance, dull red or dusky in color, occasionally with minute dilated venules. I have not seen the phagedænic ulcer.

Dermal Leishmaniasis either as the "oriental sore" of the Orient, or the mutilating "espundia" of Brazil, apparently does not occur in Porto Rico. Possibly other forms may exist in the Island but as yet this parasite has not been reported, although it has been sought by various workers.

Syphilitic ulcers are common in the cities, less so in the country, and I have seen them indistinguishable from pyogenic ulcers until resistance to treatment and a positive Wassermann cleared the diagnosis. FIGURE 2 shows a case of extreme syphilitic ulceration involving the buttocks, thighs and legs, leaving deeply punched-out scars on healing; Wassermann, 4+.

All smears from these ulcers showed cocci in greater or less abundance, at times in association with bacilli or yeast cells. A large, deeply staining diplococcus was frequently seen, very often within the leucocytes. Cultures produced white or yellowish, coccus colonies, a number of which planted in various media grew like the *Staphylococcus pyogenes albus*, *aureus* and *citreus*.

In cultures from ulcers, as well as in others from non-suppurative lesions, certain organisms appeared with sufficient frequency to merit mention, particularly because the same or very similar organisms are described from time to time as being the causative agent of some skin disease. The diplococcus referred to above was not found in culture, but sarcina colonies were common and were regarded as its cultural form. The growth was usually white or very pale yellowish, except once when the colonies were coral red. From slight morphological and cultural differences, it was inferred that several strains were handled. In one case the particular strain encountered seemed pathogenic. The palm of the left hand presented a lesion somewhat resembling ringworm but repeated examinations failed to show a fungus. The lesion was a slowly progressive, irregular semi-circle, along which the corneal layer of the skin scaled up in a free, rough margin, advancing by the formation of flat, deep-seated pustules immediately in front of the line of scaling. After a time the contents of the pustule became absorbed, the dry epidermal covering gradually merged into the desquamating border and as the scale was shed, normal appearing skin was disclosed underneath. There was no pruritus and but slight inflammatory redness.

The contents of an unbroken pustule gave pure cultures of a sarcina growing in small, gray-white colonies. Tincture of iodine liberally applied effected a cure.

Cultures sometimes gave bacillary growths some of which were isolated in pure culture and tried out by cultivation on litmus milk, gelatin, potato, etc., to identify roughly the organisms. Usually they were found to be some member of the *subtilis*, *vulgatus* or *proteus* groups. Two kinds of yeasts of the *cryptococcus* type were exceedingly common in cultures from many quite different diseases. One kind produced white, dull, waxy colonies and the other gave a coral red growth.

These organisms, with the doubtful exception of the one sarcina, have been regarded as saprophytes because of their resemblance to other well-known saprophytes and the frequency with which they are found in all sorts of skin conditions.

In three cases, smears of the deep scrapings from the ulcers, stained by Giemsa's stain, showed a great profusion of large fusiform bacilli but no spirochætæ. One other case showed both fusiform bacilli and spirochætæ. The ulcer shown in FIG. 3 corresponds quite closely to the description and illustration of *ulcus tropicum* by Castellani and Chalmers and was one of those in which the fusiform bacillus only was found. The patient, a boy of 15 years, also presented several small superficial ulcerations, scarcely more than mere excoriations covered by hard scabs, which did not show the fusiform bacillus. The Wassermann reaction was negative, while those of Desmouliere and of Busila were positive and that of Weinberg-Hecht was weakly positive. Syphilis was denied nor was it possible to get any history of suspicious primary or secondary symptoms. It would seem that this was an instance where infection by the fusiform bacillus had taken place in one of the small superficial lesions possibly due to hereditary lues, and had produced the larger ulcer. No specific treatment was given. Local treatment by boric acid, at first by wet dressings and later by the powder, caused a prompt disappearance of the fusiform bacillus and healing of all lesions.

**DERMATOMYCOSSES.** Apparently blastomycosis is rare in Porto Rico, but I have reason to believe that it occasionally occurs. Sporotrichosis likewise seems rare. Cases have been reported on clinical and therapeutic grounds, and once under the name "oidiomycosis,"<sup>3</sup> upon the additional evidence of the presence of yeasts in the pus from the ulcers. I did not see this case but the description of the lesion was very suggestive and I believe it to have been sporotrichosis. In other cases I have

known this diagnosis to have been made practically upon the fact that a chronic rebellious ulcer recovered after administration of iodides in large doses; hardly sufficient grounds in a country where luetic ulcers are common.

In the absence of very characteristic clinical lesions, a positive diagnosis of sporotrichosis is scarcely permissible without the cultivation of the sporotrichum. The finding of yeast cells in the pus may be suggestive, especially if abundant, but it is not conclusive because saprophytic organisms, always abundant in tropical countries, may too readily find lodgment and favorable conditions for growth in such lesions. I have on various occasions observed yeast cells in pus, but cultures showed the organism to be a cryptococcus or a monilia. I obtained in culture from one ulcer seven different fungi besides bacilli and cocci. I have been on the lookout for sporotrichosis in Porto Rico, without finding, as yet, either a sporotrichum in culture, or the typical nodules and ulcers along the course of the lymphatics "on which to base a *probable* diagnosis of sporotrichosis." (Castellani and Chalmers.)

Ringworm of the scalp and of the beard must be excessively rare in Porto Rico, if they occur at all. I have seen eczema of the scalp mistaken for tinea capitis, but the absence of fungus and careful consideration of the symptoms served to clear up the diagnosis. Favus is another disease which I believe does not exist in Porto Rico. I have not seen it, nor the scarred scalp which so characteristically and permanently marks its victims. Ringworm of the non-hairy skin, on the contrary, is more frequent than in colder countries. The majority of cases present the same picture or one very similar to that of tinea circinata as described by standard textbooks on skin diseases. Face, neck and arms are the most frequent locations, but other parts are by no means exempt. The individual lesions vary greatly in size and number and subjective symptoms are equally variable.

The scales treated with potassium hydrate, 40 per cent. solution, usually show the fungus quite readily, but in some cases I have found it very scarce or unequally distributed, requiring the examination of several specimens. Attempts at cultivation failed in most instances, but cultures have been secured from some cases which will be especially reported when the organisms have been identified.

In contradistinction to the ordinary type of ringworm, were two cases which I saw following unsuccessful vaccination during the recent

smallpox epidemic. The patients were in no way associated yet presented very similar lesions at the site of vaccination; an oval patch, 5 by 4 centimeters, consisting of a crusted, scaly centre surrounded by an acutely inflamed zone, dark red, dry and rough, and showing a few scattered pustules of pin-head size. Beyond this, was a broad elevated zone of thickly crowded small papules, vesicles and some pustules and showing more or less desquamation. Lastly there was a marginal zone of intensely red skin thickly studded with very minute discrete vesicles, the extreme margin of redness shading off beyond the vesicles into the normal skin. Itching was marked. The scales were easily detached and showed fairly abundant mycelium, of a fungus which defied numerous attempts at cultivation.

Of ringworm of the nails, I have seen two cases, one in a young Porto Rican girl, and the other in a man from the United States who contracted the disease in Porto Rico. Both presented the typical broken nails, of yellowish gray color and friable consistency. The girl had also several small, reddened, scaly spots on the fingers. Mycelium was easily demonstrated in bits of the nails from both patients and in scales from the girl's fingers, but cultivation was unsuccessful.

*Tinea cruris* (Dhobie itch, *eczema marginatum*) is a very common disease in Porto Rico, and is seen with remarkable frequency in persons of excellent sanitary habits. It is apparently more contagious than *tinea circinata*, frequently communicated to other persons in intimate association, as other members of a family, and I have twice seen localized epidemics, once on shipboard and again in a dormitory where several men roomed together.

The typical eruption with its bright red, festooned margin, occurring in the crural or axillary regions, is easy to recognize, but difficulty may be found in old cases which have been irritated or infected by scratching. Such cases seem prone to become eczematous and may present a very atypical appearance.

The name "*tinea cruris*" may be criticised because of its limitation of the disease to a particular region, but for want of a better term, I use it in a broad sense to designate the clinical entity caused by the epidermophytions, and sometimes by other fungi, which, while occurring in its most characteristic form on the crural folds, is by no means confined to the situation named. Indeed in my experience in Porto Rico, it has been more frequently localized between and under the toes, sometimes without any signs or history of the crural form. Some



patients with both localizations have stated that the disease first appeared under the toes and later in the crural region, probably transferred by the fingers. Upon the foot, it is almost always confined to the skin of the interdigital and plantar surfaces of the toes, the transverse fold under the toes and the adjacent portion of the ball of the foot, rarely extending farther backward onto the sole. Upon the hand, it has a corresponding distribution between and under the fingers and on the anterior portion of the palm.

In these situations, the disease appears so radically different from its typical crural form that I believe its true mycotic nature and its identity with *tinea cruris* has seldom, if ever, been recognized in Porto Rico. The resemblance of this variety of *tinea cruris* to eczema of the squamous type is so great that these lesions are almost invariably called eczema unless the physician has had his notice specially directed toward this condition or is in the habit of using the microscope in diagnosis. Sabouraud and others have called attention to this localization of the disease and most textbooks mention it, but do not give it the importance that it deserves.

The characteristic individual lesion is a minute, almost imperceptible, discrete vesicle which soon dries and finally desquamates. These vesicles may be few or many, or even absent, or invisible in the thick skin. They tend to appear from time to time upon the new epidermis which replaces that which has been shed and this process may be repeated indefinitely because the disease in these locations shows little or no tendency to spontaneous recovery.

As usually seen, after a variable duration, the skin is somewhat thickened, often cracked, dry or moist according to the amount of perspiration. Vesicles may, or may not, be seen. The superficial epidermis peels up in irregular rough lines or spots. Sometimes good-sized pieces may be pulled off, but they are not usually very thick, the process being limited to the superficial layers as a rule. The fissures, if present, are very superficial, unless irritated by scratching or complications. Redness and other signs of active inflammation are slight and the characteristic irregular margin of *tinea cruris* is absent. Pruritus is usually present, variable in intensity in different subjects and at different times. The disease may be insignificant, consisting of only a few small scaly points, but it usually causes sufficient inconvenience and discomfort to cause the patient to seek relief, and may cause inability to walk.

The diagnosis from eczema is not very difficult, as a rule, provided the two diseases are borne in mind. Eczema is a deeper process, more prone to coarser scales, more general and with deeper fissures and more exudation. I have seen eczema limited to the region favored by this disease, but it is more liable to involve the sole to a greater extent, and the scaling of eczema more often has the appearance of a thicker sheet of epidermis broken by cracks, instead of the thinner peeling in irregular lines. After a considerable experience with both diseases, I can usually distinguish them by simple inspection. I do not, however, omit the examination of scales for fungus to confirm the tentative diagnosis, because the two conditions may resemble each other so closely that the microscope is the only reliable guide.

Tinea cruris upon the body and limbs produces patches, generally circular in shape, very similar in appearance to ringworms due to other fungi. It preserves its papular margin but is more regular in outline than in the crural fold, it is somewhat more vividly red than other ringworms, and the central portion often has a decided buff color.

I have obtained cultures from a number of cases of tinea cruris in different situations, the fungus grown always showing the characteristics of the *Epidermophyton cruris*. In other cases, cultures have failed.

Another condition due to fungus infection, which I have seen on the feet, deserves mention. In two cases, there were deep seated vesicles measuring  $\frac{1}{2}$  to  $1\frac{1}{2}$  centimeters in diameter on the sole or side of the foot, accompanied by marked itching and acute inflammation. On rupture, the vesicles exuded clear or slightly cloudy serum, and left rather deep red holes with a ragged edge of epidermis. In a third case, there was more inflammation, intense pruritus and considerable pain, with the popliteal and femoral lymphatic glands swollen and painful. The infection seemed very virulent, as evidenced by the severity of the inflammation and the rapidity with which new vesicles formed, until stopped by treatment.

The epidermis covering the vesicles showed abundant mycelium in all three cases. From the first two, the same fungus was grown, a trichophyton which is apparently a new species although it is still undergoing cultivation to determine its character. Culture from the third case resulted in failure, which fact, coupled with the difference in the clinical features, seems to indicate that it was due to a different

species. Secondary infection, however, may also explain the greater severity of the inflammation and the lymphatic involvement.

Still another mycotic affection of the feet is very common in Porto Rico. It may be a less active form of the vesicular eruption just mentioned, but it has distinctive features which lead me to think that the fungus is a different species. The vesicles are smaller, 2 to 5 millimeters in diameter, deep seated, and less inflammatory as a rule. Slight itching, burning or tenderness is present, more marked if the vesicle is subjected to pressure or friction in walking. Rupture seldom occurs unless due to outside force; ordinarily the vesicle dries and after a time a thick scale is shed. When the vesicle is broken a comparatively deep pit with rough borders is disclosed. In the epidermal covering was seen mycelium differing from that found in the other vesicular lesions above mentioned, in that the hyphæ were thinner, more tortuous, composed of short spore-like particles, usually more or less distorted in shape, and variable in size. Cultivation has been unsuccessful. In one instance, I encountered these vesicles associated with eczema and several times with pompholyx. They tend to occur at intervals and seem refractory to treatment, patients frequently stating that they have had them for years.

Ormsby and Mitchell<sup>4</sup> have reported from Chicago sixty-five cases of ringworm of the feet, and others have reported similar cases from various parts of the United States. Many of the cases described closely resemble those I have seen; apparently it is a common and widely spread affection outside the tropics.

I have to record a single case of *tinea nigra*, a black ringworm which, according to Castellani, is not uncommon in the Orient from China to India, but so far as I know, never reported in America.\*

On each palm, there was an irregular black patch, approximately  $1\frac{1}{2}$  centimeters in diameter, the color strongly resembling a silver nitrate stain. There were no subjective symptoms, no elevation, and no scaling; but scraping easily detached a fine friable scurf, which showed, under the microscope, an exceedingly abundant mycelium. It was easily grown, producing a jet black growth similar to the

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\* Since writing the above, I was informed in conversation with Major Whitmore, Medical Corps, U. S. Army, that he had seen a similar case in New York, a single patch upon the palm of an American lady who had been in Porto Rico. The case was not reported.

*Cladosporium mansonii*, described by Castellani and Chalmers as the cause of this disease.

Tinea flava is extremely prevalent, particularly in the Porto Rican peon, or laborer, and occurs to some extent in persons of the better class as well as in Americans who have resided some time on the island. There may be only a small spot or two, or large areas covering most of the body, including the face, limbs and neck. The color in the darker skinned persons is a dirty, ashy gray, more yellowish or buff in those of fairer complexion. Small spots may be more or less circular, while larger areas have gyrate, irregular margins due to coalescence of the patches. (FIG. 4.)

The absence of acute inflammation, absence or mildness of pruritus, the inconspicuous color, and the long time they have been accustomed to see the spots on their skin, render the patients as a rule rather indifferent to the presence of the disease. Desquamation is not usually noticeable, although there is frequently a fine, scurfy roughness. By scraping, a minute scale can be obtained, in which the fungus, *Malassezia tropica*, can generally be found.

A case of trichomycosis or trichonocardiasis in the axilla was recently brought to my notice, and since then I have found others. It is probable that it is a common disease in Porto Rico, but causing no inconvenience, it is overlooked by physician and patient alike. With the exception of one case, which was of the yellow variety, all my cases have shown the minute, dark reddish masses on the shafts of the hairs. A bacillus-like fungus, a nocardia, could be demonstrated after prolonged soaking in a strong solution of potassium hydrate, but it may be difficult to find unless stained. Gram's method gives beautiful results.

DERMATOSES DUE TO ANIMAL PARASITES. Pediculosis as a disease is seldom seen by the physician, and the parasite is not very common, although it does become widely spread at times in schools and institutions. Scabies is not frequent, in fact, of four cases which I have seen in Porto Rico, two have been imported from the United States. Stings and bites of insects are of importance, more on account of the opportunities afforded for secondary infection than as skin diseases themselves.

I have seen mosquito bites, and particularly flea bites, followed by severe local infection and ulceration. Newcomers are more susceptible.

Porto Rico has no poisonous reptiles and few spiders whose bite is harmful. Centipedes are more common and their bite, or rather



pinch,\* is quickly followed by pain and swelling. The site shows two small ecchymotic spots, immediately surrounded by a raised, circular wheal, and this by an area of diffuse congestion, five centimeters or more in diameter. Lymphangitis and constitutional symptoms may follow, but are rarely of serious consequence. Unless promptly treated, preferably by incision and application of aqua ammoniæ, the bite causes severe local inflammation and ulceration.

A troublesome little pest is the jigger, or sand flea, *Dermatophilus penetrans*, which is very abundant in the sandy lands near the coast. The female burrows into the skin, usually about the toes, causing intense itching and marked local inflammation, which, untreated, is followed by abscess and the formation of small but comparatively deep and painful ulcers which heal slowly. Walking is painful and may be impossible.

I have seen two cases in which scales under examination for fungus, failed to show mycelium but did show a number of mites, apparently a species of tyroglyphus. In one case, there was a papulo-vesicular eruption of long duration, on the trunk and thighs. The other case showed a marked thickening, 2 to 4 millimeters, under the toe nails and under the nail of the second finger of the right hand. The exposed portion of the finger nail was trimmed away, and bits taken from the softer, deeper tissue, presumably uncontaminated by dirt or chance organisms, showed the mites. The patient also had a marked keratosis of the soles and of the heels, which may have been a part of the same pathological process, but investigation could not be carried further because the patient did not return to the clinic.

The *Demodex follicularum* is occasionally met with in the examination of material from the skin. I saw it once in the discharge from an inflamed external auditory canal. Its pathogenic rôle in such cases is very doubtful, but seems more probable in another case. The patient was subject to attacks of mild dermatitis seborrhœica on the chest, but noticed a persistent, darker, more brownish spot at some distance, to one side. Although darker in color, it bore such resemblance to a spot of pityriasis versicolor that I confidently expected to find the fungus in the epithelium which I scraped off. On the contrary, there was no fungus, but a number of demodex, some of which were apparently immature. It was probably an instance of pigmentation due to this parasite, similar to those of Italian and French writers cited by Stelwagon.<sup>5</sup>

In a country so plagued with hookworm as is Porto Rico, the dermatitis caused by the penetration of the larva through the skin, is naturally very common, and it is well differentiated by the people themselves under the distinctive name "mazamorra." With rare exceptions it occurs on the feet and legs, but has been observed on other parts, even on the face. It begins as small, reddened points soon developing into vesicles on an inflammatory base. The skin becomes swollen and painful, while itching is usually intense. An uncomplicated attack usually lasts two or three weeks, but secondary infection nearly always takes place, the eruption becomes pustular and the duration is prolonged. Ulceration is a frequent result, especially in subjects already anæmic and debilitated.

**FILARIASIS AND ELEPHANTIASIS.** Filariasis is extremely common in all classes, unsuspected many times until blood examination at night accidentally reveals the microfilaria. The erysipelatoid lymphangitis and elephantiasis, usually ascribed to filaria infection, are frequently seen along the low coast land, in some localities more than others, but quite rarely in the mountainous interior, in which case there is usually a history of previous residence on the coast.

The attacks of lymphangitis recur at intervals, in some cases with a peculiar tendency to regularity, as strikingly exemplified in one of my patients. He was a Porto Rican of good family, who after several years of attacks at long and irregular intervals, began to have them regularly each month. After removal to New York, no recurrence took place and the elephantiasis, which had become quite noticeable, remained stationary until death took place some years later from tuberculosis. Attacks may cease spontaneously as in the case of a man of some 50 years who has been at times under my care for other causes. He had a moderate elephantiasis of the legs, and stated that as a young man he had had frequent attacks of lymphangitis which ceased about 20 years ago, and that the elephantiasis had not progressed since the cessation of these attacks.

The lymphangitis is locally known as "erisipela," but I may remark here that true erysipelas is apparently a rare disease in Porto Rico. The lymphangitis begins suddenly with a chill, but is sometimes preceded by prodromata. Fever rises rapidly and is usually high, accompanied by nausea, vomiting and extreme prostration. Severe pain is felt in the affected part, usually one leg, which is soon followed by swelling and redness. It is a patchy erythema of large and small areas, more

or less coalesced, with well defined, irregular outline. Red lines may follow up the course of the lymphatics, which sometimes may be felt. The color at first is bright red, but soon becomes darker. It has not the bright, tense, shining redness of erysipelas; lacks the progressive elevated border; the color of the lymphangitis comes out rapidly throughout the entire area involved and remains within those limits and the swelling involves considerably more than the reddened area. There is marked pain and tenderness, and the lymphatic glands of the area affected become swollen and painful.

The fever subsides in two to four days, but may last longer. The pain and swelling diminish with the fever, while the redness disappears more slowly, persisting for several days after other symptoms have abated.

After a number of such attacks permanent swelling remains: the beginning elephantiasis, at first a smooth, brawny thickening, progresses slowly until it produces the well known characteristic hypertrophy. Although most commonly involving the leg and the scrotum, it may affect the arms, mammæ and other parts. In one instance practically the entire body, including head and face, was markedly affected.

Some patients having extensive elephantiasis give histories of very slight, infrequent attacks or even absence of lymphangitis; others state that the hypertrophy is progressive after the attacks cease.

**YAWS OR FRAMÆSIA.** This tropical disease of great importance in certain West Indian islands and in some parts of South America, probably occurs in Porto Rico, but, if so, seems quite rare. The South America synonym, "bubas," is applied in Porto Rico to various ulcerative skin diseases which may or may not include yaws. I have seen cases of "bubas" which decidedly were not yaws; on the other hand several patients at the Utuado clinic presented scars and histories of past eruptions which were very suggestive of true yaws. We did not, however, see the disease in its active stage nor encounter the *Treponema pertenue*, although it was sought in the skin lesions of suspicious nature or history.

White and Tyzzer<sup>6</sup> have reported, in the person of a Porto Rican sailor at Boston, Mass., a case with somewhat atypical clinical features but showing a spirochæte corresponding to the *Treponema pertenue*. While probability points to infection in Porto Rico, yet the patient's occupation admits the possibility of an outside source.

Yaws, probably of Porto Rican origin, has been reported by Davis,<sup>7</sup>

in three children in Philadelphia. The family had been in Porto Rico during July and part of August, and the eruption became manifest about the middle of September, after return to the United States. There seems to be no doubt of the diagnosis, and the circumstances of time indicate the probability that the disease was contracted in Porto Rico.

PELLAGRA. This disease, now attracting so much attention in the United States, is endemic in Porto Rico. Although the fact is apparently not generally known, it was recognized there in 1904 by the members of the Porto Rico Anæmia Commission (Ashford, Gutierrez and King) and in the report, "Anæmia in Porto Rico," San Juan, Dec. 1, 1904, p. 92, the case is given in the list of intercurrent diseases and complications encountered in our cases of uncinariasis. The association of these two diseases, as in the case above cited and one reported by Gutierrez<sup>8</sup>, has been repeatedly noted in Porto Rico, and is to be expected in localities where both diseases are prevalent. It is difficult to estimate the amount of pellagra in the Island, as no investigation of the disease has ever been undertaken, but I believe it to be more common than is generally supposed.

In countries where pellagra and sprue coexist, as in Porto Rico, considerable difficulty may, at times, be experienced in differentiating between them, especially in those cases of pellagra, in which the sore mouth and gastro-intestinal symptoms are prominent and the skin lesions are slight or temporarily quiescent. Mental symptoms, by the way, occur occasionally in sprue. Ashford<sup>9, 10</sup> has called attention to the confusion which may arise.

The accompanying photograph (FIG. 5) of one of my patients well illustrates a most extensive eruption in a fatal case of pellagra; the patient was a Porto Rican boy, aged four years. The eruption covered the backs of the hands and feet, extending in less degree to the elbows and knees, a large patch in each groin, smaller patches on the forehead and cheeks, and a very broad "Casals' necklace" completely encircling the neck, extending outward to the shoulders and downward on the chest. Its white appearance in the photograph is due to zinc oxide ointment which had been profusely applied.

SYPHILIS. The cutaneous manifestations of syphilis form an important branch of dermatological work in Porto Rico, and the distribution of the disease on the Island presents a point of considerable interest. Comparatively rare in the rural population, its prevalence in the cities, in all social classes, is simply appalling. At the Utuado



clinic, it was not often possible to detect latent disease, and only 21 cases, acquired and hereditary, were noted, the majority of which were in town people, notwithstanding that our patients were chiefly from the country. The fact of this unequal distribution is confirmed by other observations.

The character of the lesions is the same as elsewhere, with apparently a greater tendency toward ulcerative types. Jeanselme has noted that in the tropics the secondary manifestations are often insignificant, and that the classical stigmata of congenital lues are frequently wanting. On the other hand, tertiary lesions of the skin are apt to be common and severe; an opinion in which my experience leads me to concur. In such cases the Wassermann test has been exceedingly valuable.

**LEPROSY.** Quiet but persistent segregation has had the effect of making this disease rarely seen in Porto Rico. The leper colony on Cabras Island at the entrance of San Juan bay has 38 inmates at present, and the few lepers still at liberty remain in concealment for fear of removal. An incident that occurred to me some years ago is not liable to be repeated to-day. Stopping on one occasion at a hotel in the interior, I called for a bootblack. While he was at work on my shoes, I noticed on his feet and hands such well advanced lesions of the disease that he handled his brushes and walked with some difficulty.

**VERRUCA.** A condition of minor importance, yet one that excites interest and curiosity, is the peculiar growth of warts frequently seen on the feet and hands of country people in Porto Rico. It is almost exclusively seen in rural districts, and particularly in children and young adults. On the top of the foot, less often the back of the hand, is a collection of papillomatous warts, possibly few in number but more often numbering from a dozen or so to more than one hundred, and covering the entire top of the foot.

The individual lesion resembles an ordinary wart, usually sharply elevated and rough but some are flat and smooth. In size varying from a minute point to a centimeter, or occasionally very much larger, they are discrete, rarely coalescing even where extremely closely placed, and located without any order or relation to each other, some areas being more thickly crowded than others. Males seem more affected than females. The condition is chronic, remaining for years without change. There are no subjective symptoms, unless injury or infection takes place.

The frequency with which these cases are seen, in rural districts only, the strict limitation of the warts to the sites named, and their

excessive number, suggest a distinct pathological entity. At any rate they present a very striking picture.

Certain other diseases, more or less cosmopolitan in distribution, which have come under my notice in Porto Rico, may be mentioned in a few words.

Herpes, facialis and progenitalis, is quite common and frequently affects odd locations. I recently had a patient with a single patch upon the lower eyelid.

Pompholyx is exceedingly common and sometimes causes considerable annoyance, although as a rule it is very mild. Lupus vulgaris is occasionally seen, but tuberculosis of the skin is rare in comparison to its great prevalence in the pulmonary form. Psoriasis has been noted twice; both cases in the higher and cooler interior. Vitiligo is frequently seen and has been taken for macular leprosy. Tumors of the skin, benign and malignant, occur in Porto Rico, but they have not come prominently to my attention.

Interesting cases of such diseases as lichen planus, lupus erythematosus, erythema iris, etc., as well as the eruptive fevers, have been seen, but call for no particular comment.

#### REFERENCES.

- <sup>1</sup> CASTELLANI AND CHALMERS. Manual of Tropical Medicine. London, 1913.
- <sup>2</sup> STITT. Diagnostics and Treatment of Tropical Diseases. Philadelphia, 1914.
- <sup>3</sup> HILDRETH AND SUTTON. Oidiomycosis in Porto Rico. *Jour. Amer. Med. Ass'n*, Dec. 26, 1914.
- <sup>4</sup> ORMSBY AND MITCHELL. Ringworm of Hands and Feet. *Jour. Amer. Med. Ass'n*, Sept. 2, 1916.
- <sup>5</sup> STELWAGON. Diseases of the Skin. Seventh Edition. Philadelphia and London. 1914.
- <sup>6</sup> WHITE AND TYZZER. A Case of Frambæsia. *Jour. Cutan. Dis.*, March, 1911.
- <sup>7</sup> DAVIS. Yaws (Familial). *Jour. Cutan. Dis.*, June, 1916.
- <sup>8</sup> GUTIERREZ, IGARAVIDEZ. Un Caso de Pellagra. *Anales medicos de Puerto Rico*. 1912, No. 1.
- <sup>9</sup> ASHFORD. Relation of the genus "Monilia" to Certain Fermentative Conditions of the Intestinal Tract in Porto Rico. *Jour. Amer. Med. Ass'n*, June 5, 1915.
- <sup>10</sup> ASHFORD. Is Sprue a Monilliasis of the Digestive Tract? *Jour. Amer. Med. Ass'n*, July, 1915.



Fig. 1.—Impetigo contagiosa.



Fig. 2.—Syphilis. Wassermann 4+.

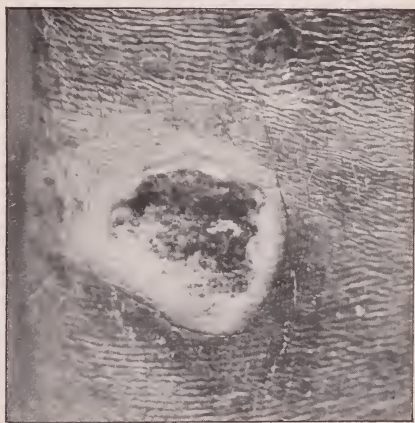


Fig. 3.—Tropical ulcer.



Fig. 4.—*Tinea flava*.



Fig. 5.—Pellagra.



## CUTANEOUS METASTASES IN HODGKIN'S DISEASE

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Cutaneous metastases in Hodgkin's disease are sufficiently rare to justify recording the following case report with the photographs and various laboratory records.

## REPORT OF CASE.

(Serial Number 46563)\* The patient is 28 years old, an American, traveling salesman and married. He was first seen in July, 1916, by Dr. C. D. McGettigan and Dr. H. R. Oliver, when a diagnosis of Hodgkin's disease was made clinically and pathologically (tissue extirpated from tumor in neck). At that time the patient had been aware of cervical and axillary tumor masses for two years.

**CUTANEOUS LESIONS.** In April, 1916, there were noticed painless, non-inflammatory swellings (to be described later) over the upper part of the right shin and inner aspect of the left leg at its middle third. These swellings were hard and appeared to be connected with the bone.

The following is a condensed record of the history of the case:

**COMPLAINT.** Tumors in the neck and right axilla, of two years' standing.

**FAMILY HISTORY.** His father had died of "pneumonia and meningitis" at the age of 49. His mother and brother were living and well. There was no history of family tuberculosis.

**PREVIOUS HISTORY.** He had had typhoid fever in 1893 (ill two months) and shortly afterwards mumps; an appendectomy for a gangrenous appendix in November, 1911, followed by ischio-rectal abscess and fistula, and in January, 1916, pneumonia. In boyhood the patient was shot in the left eye by an air rifle and he now "sees double" with that eye. He has had a rapid heart since his appendicitis, in 1911. Occasionally he has palpitation, but no other precordial distress. His digestion always has been good. There is no venereal history. There is absolutely no history suggesting lues.

His habits are good now, but for several years prior to one year ago he took five to twelve drinks of whiskey and averaged twenty to thirty cigarettes daily.

**PRESENT COMPLAINT.** In 1914, the patient first noticed "small, painless swellings" on each side of his neck, above the clavicles, which slowly increased in size. Sometimes they temporarily grew smaller, but never disappeared. In March, 1916, they were largest and at that time a similar swelling appeared in the right axilla. The blood Wassermann was repeatedly negative. He received arsenic in various forms without benefit. The patient had lost about fifty pounds since the onset of the disease. Tissue removed from the mass on his neck, by Dr. H. R. Oliver, showed the microscopic appearances typical of Hodgkin's disease (July, 1916).

**CUTANEOUS INVOLVEMENT.** In June, 1916, a painless, even, oval swelling was noticed along the right shin (middle third) and at the same time a similar hard swelling appeared in the upper third of the left leg, anteriorly, over the

\*(From the Skin Clinic, Stanford University Medical School.)

tibia and apparently connected with the periosteum. On Sept. 26th, 1916, it was noted on the history that these lesions were unchanged. On Oct. 4th, 1916, the indurated lesion on the left leg had broken down, forming an ulcer clinically indistinguishable from a broken-down gumma.

In the meantime the cervical, axillary and mediastinal tumors were being given Roentgen therapy with excellent results (by Dr. W. W. Boardman who will report his observations later).

On October 30th, 1916, the patient was referred to the Skin Clinic when the following was recorded on the history:

On the inner aspect of the left leg, at its middle third, is a typical, broken-down gumma, about 4 cm. in diameter. (See FIG. 1.)

On the inner aspect of the right leg, in the upper third, is a large even, oval, hard, immovable, painless, non-inflammatory swelling which appears to be connected with the tibia. It measures about 9 cm. in its longest diameter which follows the shaft of the tibia and about 4 cm. across.

X-ray examination of both legs disclosed "cortical thinning of the left tibia with slight periosteal thickening over the right tibia." (Boardman.)

The punched-out ulcer on the left leg and the hard, painless, immovable tumor over the right tibia were so suggestive of lues that several blood Wassermanns were tried, but always with negative results. Provocative salvarsan injections were given twice and the Wassermann was tried at intervals of 24 to 48 hours, for a week, but with negative results. The patient was given "mixed treatment" also, but not until after the failure of the provocative salvarsan injections. He was given also a red oxide of mercury ointment to apply to the ulcer, but through a misunderstanding he applied it also liberally to the non-inflammatory tumor on the other leg. Within a few days this swelling became red (but not painful), fluctuating, and soon broke down, forming a punched-out ulcer similar in appearance to the other one.

Before the tumor broke down, 15 cc. of the sanguineous, gelatinous fluid contents were aspirated and injected into a rabbit's testicle. Bouillon tubes were inoculated and smears were stained and examined by Dr. E. C. Dickson.

The stained smears showed "much blood, a few pus cells and *no bacteria*." No growth occurred on calcium carbonate broth. The rabbit inoculation gave no results (after two months' observation), but the value of this procedure was somewhat nullified through the fact

that there was considerable delay between the removal of the fluid and the inoculating of the rabbit.

Both gumma-like ulcers improved considerably after the two salvarsan injections and three weeks of mixed treatment, but soon the condition became stationery.

A piece of tissue, including the skin, was removed from the edge of the ulcer on the left leg and was examined histologically by Professor Ophuls, who reported as follows: "Sections from edge of tumor show in skin and subcutis, masses of cellular tissue in which there are many small and some large lymphocytic cells, also many eosinophiles. There are also many large fusiform cells with connective tissue fibrils between them and in places many large capillary blood vessels, with unusually large endothelial cells. Irregular, small necroses containing eosinophiles in the centre of some of these masses. In spots there is considerable hæmatogenous pigment in some of the connective tissue cells. No giant cells are found.

"On account of the numerous eosinophiles, the large lymphocytic cells and the whole character of the lesion, which resembles the tissue changes in Hodgkin's disease and certain types of lymphosarcoma, the most likely diagnosis to me seems to be Hodgkin's disease—metastatic of leg."

Antiluetic treatment was at once discontinued and Roentgen therapy (Coolidge tube) to the leg lesions was instituted by Dr. Boardman, as follows:

Dec. 18, 1916. 40 Milliampere minutes—8" gap—with a screen of 3 mm. of aluminum and sole leather.

Dec. 27, 1916. The same dosage excepting that this time the voltage was 165.

Within ten days, the ulcers showed marked improvement. This improvement steadily continues, until now they have just about healed over. Balsam of Peru dressings have been applied daily. The areas are deeply pigmented and there is every indication that the scars will be smooth and not thickened.

SUMMARY: Our patient has Hodgkin's disease involving the cervical, axillary and mediastinal glands,—as demonstrated clinically and histopathologically. He developed on both legs hard, immovable, painless, non-inflammatory tumors which softened and broke down, leaving ulcers clinically indistinguishable from syphilitic gummata. In spite of numerous negative Wassermanns, including several following two provocative

injections of salvarsan, mercury and potassium iodide were administered. The salvarsan-mercury-iodide treatment caused only temporary improvement. Roentgen therapy (Coolidge tube) applied to the lesions, rapidly caused complete filling in of the ulcers. Sections of tissue taken from the edge of one of the ulcers before treatment showed the condition to be metastatic Hodgkin's disease of the subcutaneous tissue and skin.





Fig. 1.—Showing ulcer on left leg before roentgenization.



Fig. 2.—Showing ulcers on both legs after roentgenization. Note the roentgen-ray erythema around the ulcers.

## HERPES ZOSTER, A FOCAL INFECTION.

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For a number of years herpes zoster has been considered by many clinicians as a disease probably due to a specific infection, or in certain cases that it might be caused by trauma.

Not a few of our pathologists have studied the exudates surrounding and within the nerve sheaths of the posterior ganglia, as well as within the zoster vesicles themselves, and their findings are strongly suggestive that the affection is of bacterial origin. Also a few reported cases have been directly attributed to certain injuries. We have a recent such example of a zoster following an osteopathic manipulation, reported by Howard Fox<sup>1</sup>.

Notwithstanding these opinions have prevailed for several years past, only recently has there been any attempt to produce this disease experimentally or a study made of the possible foci of infection.

Many observers have also noticed that herpes zoster is frequently associated with rheumatism, tonsillitis and neuralgias. These circumstances were discussed by the author, before the Custer Co. (Okla.) Medical Society, May, 1906. However, not until May, 1914, after having heard a discussion of erythema nodosum by Dr. Rosenow, at a clinic held at the Presbyterian Hospital, Chicago, during a meeting of the American Dermatological Association, was suggested to my mind the probability of herpes zoster having a common origin or focus to that of rheumatism and erythema nodosum.

After this meeting and after listening to Rosenow's paper, I returned to my home, fully determined to study more carefully cases of this class of skin diseases with reference to infected tonsils or pyorrhœal pockets as possible ætiological factors.

With the assistance of my associate, Dr. M. M. Roland, we at once began to search for, and to note all possible sources of infection in all that class of diseases in which the ætiology has been variously theorized upon, from microorganisms to heredity.

Our first work was directed to such diseases as psoriasis, dermatitis

herpetiformis, lupus erythematosus, erythema multiforme, and lichens, (more especially lichen planus) and herpes zoster.

Our examinations consisted of a brief inspection of the tonsils and teeth, with a radiograph of all suspicious looking teeth, especially those which had been crowned, or those in which an attempt had been made at devitalization or filling of the root canal.

Let us say, parenthetically, that we learned quite early in our observation that many teeth may present upon inspection alone, a healthy or normal appearance, whereas after a radiograph had been made, a distinct apical abscess or pyorrhœal pocket may be disclosed.

We had been doing this work only a short time, when we observed that lichen planus and herpes zoster were offering the most encouraging field for study. And now, after a study of focal infections from a dermatological standpoint for nearly three years, observing several hundred cases, and after having called the attention of some of our colleagues to our observations, who have corroborated the same, we are quite convinced that focal infection plays no small part in a certain class of skin diseases as well as in general medicine.

Mention of our studies and a hint of our findings was made by the author in a discussion of one of the papers,<sup>2</sup> presented before the Amer. Med. Asso. meeting in San Francisco, June, 1915.

We were later much gratified and encouraged in our studies by a report on experimental herpes zoster in animals, by Rosenow and Oftedal,<sup>3</sup> though at the time of said meeting we had not read nor had known of such work being done.

Later, in the same Journal, Rosenow<sup>4</sup> reported a similar series of experiments with intravenous and intraperitoneal inoculations, with emulsions of cultures from various tonsils and pyorrhœal pockets with resulting lesions, chiefly herpes, in 28 per cent. of his cases.

Also, it has been clearly demonstrated by Rosenow and others, that certain strains of microorganisms do have a special pathogenicity for certain tissues, including the ganglia of the posterior spinal nerve roots. Zoster had previously been recognized by pathologists as a terminal manifestation of a pathological process in the ganglia of the posterior branches of the spinal and cranial nerves.

Our studies have naturally been limited, in a city of less than 100,000 population; also the lack of an experimental laboratory, wherein Koch's law might be fulfilled, has been keenly felt in our investigations.

We wish to here affirm that we are not in sympathy with a number

of writers who have recently hastened into print, attributing a whole text book of diseases to focal infection. Such conclusions are hastily drawn, without sufficient time or study having been given them; more careful studies may, as in our work, eliminate more than is confirmed.

However, after conscientiously prosecuting this work in quite a number of cases of zoster, and after observing in many cases rapid recovery or improvement after removal of the offending tooth or other foci, we are fully convinced that there is a true herpes zoster which has its origin in a specific infection, having a focal point, most frequently in pus pockets surrounding, or at the apices of, one or more teeth. Next in frequency is probably infection of the tonsils, and next, any focal point where the *Streptococcus viridans* or other microörganism may thrive or multiply.

We are not unmindful of the fact that many authoritative cases have been reported in the past, by men whose careful observation and study no one would question. Such cases have been attributed to trauma or to repeated doses of arsenic.

That there may be a separate herpes, not a true zoster due to trauma or drugs, has been recognized by Stelwagon, Grindon, Hartzell, Duhring and Hay.<sup>5</sup> We also shall concede that there may be a herpes simulating zoster, which may be caused by trauma, arsenic or other irritating agents. However, we are reminded that for many years past, rheumatism, whose ætiology is now perhaps definitely known, was attributed to various causes, including injury, atmospheric changes, hard labor, heredity, etc. Such ætiology was adduced by our best clinicians, whereas it is now known that such factors were probably only instrumental in the localizing or focusing of certain infectious material which had its origin at some remote point, though having a special pathogenicity for certain tissues or joint membranes.

The following briefs of cases selected at random from our records illustrate and partially verify our conclusions.

#### REPORT OF CASES.

CASE 1. Male, aged 48, came to the University Medical Clinic, May, 1912. He gave a history of repeated attacks of rheumatism in various parts of the body. At the present time he applies for the relief of a zoster eruption. (See Fig. 1.) I noted and called the attention of the class to his foul mouth, numerous decaying roots and pyorrhœal pockets, from which free pus could be pressed with the fingers. Even at this early date in the recognition of focal infections, I discussed the probability of the condition of the mouth accounting for the zoster.



CASE No. 2. Female, aged 26, consulted us in September, 1916, for discomfort provoked by an eruption (See Fig. 3). She gave a previous history of rheumatism, though she had not suffered for several months past. Also she stated that she had had neuralgic pains and burning sensations preceding the present typical zoster eruption. Examination of the throat was negative. The teeth presented fillings which gave the appearance of intruding upon the nerve pulp. Radiographs of several teeth were made, disclosing a distinct pus pocket at the apex of one of the laterals. (Fig. 4.)

CASE 3. Male, aged 46, consulted Dr. Roland for an eruption over the right eye, giving a previous history of neuralgia, a stinging or burning sensation of the skin, followed by a typical supra-orbital zoster eruption (Fig. 2). Examination of the tonsils was negative. Radiographs of the teeth were made, disclosing a distinct pus pocket at the apex of the first molar. (Fig. 5.)

CASE 4. Male, aged 50, came to our office for the relief of a vesicular grouped eruption appearing over the region supplied by the fourth cervical nerve on each side of the neck and shoulders, also a symmetrical eruption of the same character, appearing in irregular groups and occurring in the region supplied by the ninth intercostal nerve. This case presented such an unusual symmetrical eruption of each acromio-clavicular region, also each region supplied by the ninth intercostal nerve, that upon first inspection we had some doubts as to the correctness of our diagnosis of herpes zoster. However, a more careful study of the lesions and of the subsequent course of this case convinced us that this was a bilateral herpes zoster. The patient gave a history of several attacks of rheumatism during the past fifteen or twenty years, also a history of neuralgic or stinging pains in the affected region, for several days preceding the eruption. Inspection of the tonsils proved negative. Examination of the teeth disclosed a copious flow of pus from numerous snags or portions of uncrowned teeth. Radiographs disclosed some three or more pus pockets in different regions. The condition of this patient's mouth was sufficient to account not only for the rheumatism and zoster, but for the numerous other troubles which might result from a constant absorption and ingestion of pyogenic organisms.

CASE 5. Female, aged 14, came to our office, July, 1913, suffering from burning and stinging pains beginning about the 5th lumbar nerve, radiating down the left sciatic nerve; this was followed by a typical zoster eruption. The patient gave a history of muscular soreness and symptoms simulating rheumatism, also of previous attacks of tonsillitis. On inspection, the teeth appeared fairly good, so that no radiographs were made. Examination of the tonsils showed them to be very much enlarged and pus was easily expressed from them.

CASE 6. Female, aged 38, presented herself at our office for the treatment of an ulcerative lesion upon the left side of the neck, with pains radiating downward over the shoulder and arm, in which region several groups of zoster vesicles had appeared. Examination of the tonsils was negative. Inspection of the teeth disclosed severe pyorrhœal infection of both the superior and inferior maxillary. A radiograph of the teeth disclosed a diffused pyorrhœal infection in the region of the lower incisors (Fig. 6).

1. Herpes zoster has long been known as a disease associated with rheumatism, tonsillitis and other diseases.

2. After a study of the exudates within its vesicles and nerve sheaths, several pathologists have pronounced zoster due to an infection with microorganisms.

3. In reviewing observations of others, we conclude that there may be a herpes simulating zoster, which is caused by trauma or by certain drugs, though these agents may act as only indirect factors in the etiology.

4. Our findings of the constant association of zoster with alveolar and tonsillar disease processes, leads us to believe that true herpes zoster has its origin in a focal infection.

#### REFERENCES.

- <sup>1</sup>FOX, HOWARD. Case of Herpes Zoster following Osteopathic Manipulation. *Jour. Cutan. Dis.*, October, 1916.
- <sup>2</sup>CULLIVER, G. D. Lupus Erythematosus. Discussion. Section on Dermatology, Amer. Med. Assn., San Francisco, June, 1915.
- <sup>3</sup>ROSENOW AND OFTEDAL. Experimental Zoster. *Jour. Amer. Med. Assn.*, June 12, 1915.
- <sup>4</sup>ROSENOW. Elective Localization of Bacteria in Diseases of the Nervous System. *Jour. Amer. Med. Assn.*, Aug. 26, 1916.
- <sup>5</sup>STELWAGON. Diseases of the Skin. 8th Ed., p. 365.

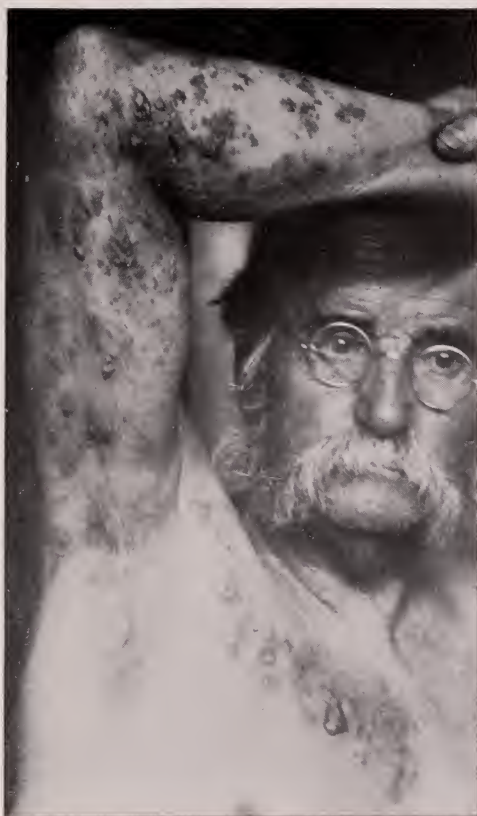


Fig. 1.—Case 1.

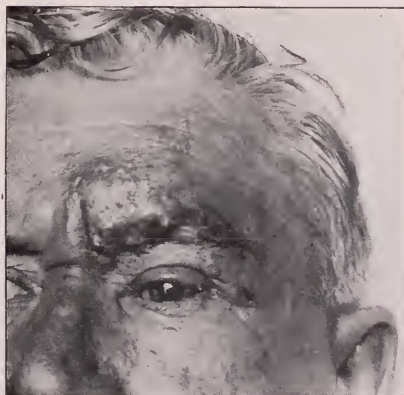


Fig. 2.—Case 3.



Fig. 3.—Case 2.

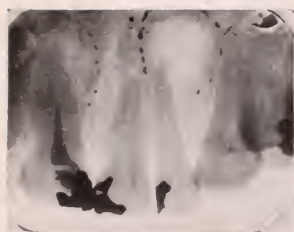


Fig. 4.—Case 2.



Fig. 5.—Case 3.



Fig. 6.—Case 6.



## DERMATITIS FACTITIA AND NEUROTIC GANGRÆNE.\*

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Dermatitis factitia, feigned eruption or cutaneous mutilation, occurs frequently enough in general and dermatological practice to warrant closer attention. This commonly unrecognized lesion is encountered most often in hysterical girls who mutilate themselves for the purpose of exciting interest and sympathy or to avoid some irksome duty. The cutaneous damage done in these cases may vary from a mild dermatitis to deep destruction or even an extreme degree of gangrænous mutilation. The case recently reported by Heidingsfeld is remarkable in that the patient serenely witnessed the complete amputation of both breasts and one leg and had given her consent to the amputation of one arm, when her case was recognized. In this instance a self-inflicted gangrænous dermatitis was diagnosed syphilis, tuberculosis and malignancy and besides receiving intensive salvarsan therapy, the patient lost both breasts and one leg by operation.

My cases are of interest more from the fact that they were able to deceive the attending physicians over a long period of time, than from the actual and permanent damage done. All three patients have provoked lesions that involve the corium, with the result that they all have disfiguring scars which they will carry to their graves. One of the patients, after a visit to another dermatologist, has, much to my surprise, returned to me in spite of my informing her of my knowledge of her deception. The skin lesions have ceased to appear but the entire mucous membrane of her mouth is eroded and damaged from the application of apparently the same irritant or caustic that she used on her neck and lower limbs.

While it is difficult to cope with deception in internal and neurological branches of medicine, there is little excuse for making errors in the average dermatological case. If one has had the benefit of practical

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\* Read before the George Washington University Medical Society, March 17th, 1917.

training in cutaneous disease and an experienced eye, he is at once attracted by the glaring artificiality of the majority of these cases. The borders of such lesions are usually sharply defined, pointed and angular, while the lesion itself is apt to be striped, band like, disk shaped or to have a fantastic outline, different from any known skin lesion. The lesions seem to appear, multiply or relapse during the night, unprecedented by any local cutaneous disturbance. Beyond the irregular or very sharply defined borders of the lesion there may be one or more drop or streak-shaped erosions, where the irritant has been spilled or has run. The fraud may be betrayed by traces of the special agent employed on the skin or clothing, such as particles of mustard or the yellow stain of nitric acid. The lesions are invariably in accessible locations and often unsymmetrically arranged. In one of my cases, a neurotic and financially embarrassed artist with one arm, his lesions naturally were on the opposite arm stump and surface of the body, while the useful arm was entirely free of lesions. My other patients were two girls in whom the lesions were so perfectly symmetrical and uniform in shape and size as to attract one's attention immediately. This is a very important point in diagnosis; namely, that the lesions are unlike the usual skin lesions which have a certain gradual, well known and definite mode of development, which admits of a practical classification. The unfamiliarity of many medical men with the classification and with the primary and secondary skin lesions proves their undoing in the correct diagnosis of these cases. If the lesions of dermatitis factitia conform with the description of any primary or secondary skin lesion, they do so very roughly and the fact of their easy elimination in such a classification is one of the least difficult methods of arriving at a correct diagnosis. Although the general practitioner is imposed upon and fooled by these cases, the dermatologist, if he be properly trained, should be able to make a correct diagnosis in these usually crude deceptions.

#### CASE REPORTS.

CASE 1. Miss F., 22 years of age, whom I saw in 1911, was employed in one of the government departments; she was a rather frail, delicate girl with a history of being quite nervous and irritable. She slept badly and had troublesome dreams. She developed a skin lesion on her upper right arm which appeared quickly, making her highly nervous and causing her considerable pain. The lesion was roughly round, about  $1\frac{1}{4}$  inches in diameter and exactly the same shape and size as two scars she had on the other arm and one on the same arm. The border was sharply defined, the base, involving the corium, was eroded, uneven, raw and bathed in a blood stained, serous exudation. The

lesion developed over night without any preceding subjective or objective symptoms. She gave a history of several similar attacks occurring during the previous year and a half, at which times she would get a signed letter from her physician to the chief of the department, for sick leave, in order to recover from her skin disease. These little forced vacations were the only methods of treatment that had any curative effect on the lesions. I saw this patient once and after confronting her with her deception, she admitted waking up during a restless sleep to find herself sucking her arm and her mouth full of blood. I could never find what form of irritant, if any, was employed to keep the lesion open and irritated. Many of her succeeding attacks occurred over the sites of previous lesions.

CASE 2. S. B., a rather nice looking girl, 23 years of age, of brunette type (you will see that she is at present a decided blonde) was operated on, October 29th, 1912, at which time she had her appendix and left ovary removed. She gives a history of menstruating irregularly until the following January, after which time she did not menstruate for one year. About one year after the operation she had a skin lesion which developed on the left side of her neck. This was treated by the surgeon for one month when others developed on her neck, chest and lower limbs. When the patient came to me she was in a highly nervous state, said she slept only three or four hours during the night, had little appetite and presented a remarkable appearance considering her dress and age. The woebegone and doleful appearance was very much accentuated by quantities of paint which she had liberally applied to her lower eyelids. She presented ten or twelve roughly round, eroded lesions, about the size of a silver dollar, from which she had been suffering for ten months. All of the lesions involved the corium and were extremely tender. They were angry and acute with no surrounding induration or redness and they were almost perfectly symmetrical on the lower limbs, the chest and the neck. Every lesion seemed to be the counterpart of another in size, depth and general appearance. The edges were sharply defined, clean cut and as soon as I saw the spots I was immediately struck with the glaring artificiality of the symmetry, location and similarity of the lesions. I decided to prove the case by predicting that by the time of her next visit to me, in the following week, she would have another lesion of the same size and shape in a particular uninvolved portion of her leg. On schedule time she appeared with the predicted lesions, of the predicted shape in the predicted location. I then informed her of the mistake she was making in mutilating herself in such a manner, with the result that she became indignant and left my office in a rage. When I decided to report these cases I got my courage up to the point of writing to her for an appointment. To my surprise, she immediately reported for treatment. Her skin lesions had entirely healed after lasting over two years, but almost the entire mucous membrane of her mouth was eroded, ulcerated and damaged by some caustic or irritant, probably the same as she used on her body and limbs. Since she was under my observation she has spent at least one week in one of our local hospitals and a week in the Johns Hopkins Hospital, where all manner of blood and gastric examinations were made, not to mention a series of unsatisfactory cultures which were made from the "false membrane" of her mouth. During her stay in the two institutions her mouth lesions improved very much. To date I understand the diagnosis is the same as it was two years ago, the first time I saw her.

CASE 3. In regard to this case, I am not sure but that the patient has not injured himself by accidentally falling against a hot pipe, radiator or stove, all of which the patient and his physician stoutly deny. H. McD., aged 48, artist, in a very much impoverished condition, was brought to my clinic at the George Washington Hospital by his physician, on Feb. 2, 1917. When I



closely questioned him he admitted that he was subject to epileptic seizures or fainting spells, in which he lost consciousness. In such a seizure, a few years ago, he fell and injured his arm so severely that it had to be amputated. He and his physician were positive that he had not had such a spell with unconsciousness for several days, that he had not fallen against any hot object, applied any irritant or caustic or that he had any recollection of injuring himself in any shape or form, at any time. The first time he was aware of the lesions was one day, about noon, he was walking down the street when he felt a stinging sensation on his left leg, side and arm stump. When he returned to his room and made an examination, he found the lesions shown in the photograph. The erosions were dressed with vaseline and plain gauze by his physician and the following day he consulted me. The traumatisms are so perfectly artificial and mechanical in outline that when taken in connection with his history, it makes a diagnosis of dermatitis factitia imperative. The patient's physician informed me that the man was in desperate financial straits, besides having family troubles; this, I think, prompted him to mutilate himself in order to secure help and funds. I am anxious to know the nature of the severe injury that caused him to lose his arm by amputation.

CASE 4. I include this case in the collection, in order to draw a contrast between it and those mentioned above. All of the important text books on dermatology mention the fact that every case of spontaneous dermatitis and gangrene occurring in a young girl, should be viewed with suspicion.

H. H. was a strong, healthy, white girl, 10 years of age. She was born with the rudiments of a spina bifida which developed and was operated on during her first year of life. The operation was a success in every way except that the child was unable to control the sphincter of the bowel and bladder. She recovered the use of the bowel three years after the operation but is still unable to control the bladder sphincter. Two years ago, without any preceding injury or applications of any kind, three areas on the left side of the buttocks, varying in size from a quarter to a silver dollar, became dark, mummified, gangrenous and sloughed off, leaving a raw, ulcerated, uneven and painless base that involved the subcutaneous tissues and fat. The sharply defined edges remained healthy and the lesions healed with a rather smooth scar. Two years after this and again without any warning or traumatism of any kind, a quadrangular shaped area became very dark, mummified, leathery and gangrenous, involving the same side of the buttocks and two of the scars of the previous lesions. A sharp line of demarcation formed and the central, mummified, anæsthetic skin contracted and separated from the surrounding sound skin, leaving between the two an ulcerated area,  $\frac{1}{2}$  to  $\frac{3}{4}$  of an inch wide, composed of healthy granulations that covered the subcutaneous tissues and fat. The black, leathery, central mass continued to contract and shrivel, persisting for ten days before separating from the subcutaneous tissues. The deeper structures, such as the muscles, were not involved in the gangrenous area and the damage did not extend more than  $\frac{1}{8}$  of an inch below the surface. The lesion appeared and behaved like any acute ulcer and under the ordinary simple antiseptic dressings soon showed signs of regeneration and repair.

There was no question but that the gangrene and bladder symptoms were dependent on the spinal cord lesion; but why the former should occur only twice in nine years is interesting. The entire left buttock was anæsthetic, which might explain some unconscious traumatism; the growth of the child may possibly have played a part in the process



but beyond this, the history and a close examination failed to enlighten me as to the exciting cause of the lesion.

## LITERATURE.

- HEIDINGSFELD. *Urol. and Cutan. Rev.*, 1916.  
CROCKER. *Diseases of the Skin*, i, p. 421.  
SEQUEIRA. *Diseases of the Skin*, p. 339.  
ORMSBY. *Diseases of the Skin*, p. 282.  
ARNING. *Brit. Jour. Dermat.*, 1889, i, p. 85. Neurotic Gangræne.  
JOSEPH. *Brit. Jour. Dermat.*, 1893, v, p. 151. Neurotic Gangræne.  
BALZER AND MECHAUX. *Brit. Jour. Dermat.*, 1898, x, p. 383. Neurotic Gangræne; multiple.  
WILMS. *Brit. Jour. Dermat.*, 1904, xvi, p. 163. Baby born with club feet, gangræne over each maleolus.



Fig. 1.—Case 2.



Fig. 2.—Case 2.



Fig. 3.—Case 3.



Fig. 4.—Case 3.

## PRACTICAL OBSERVATIONS ON LUPUS ERYTHEMATOSUS AND ITS MANAGEMENT.

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The trite saying that the longer the list of remedies for a certain disease the less good is attained in its treatment, is as old as Medicine itself. Consult any text-book or read any one of hundreds of monographs dealing with the treatment of lupus erythematosus, and you will not be disappointed with regard to the *number* of healing agents commended in this affection. But from these generous lists of remedies, which particular ones are you to choose in undertaking the cure of a given case of erythematous lupus? And having selected certain ones, what are the indications for their employment? I do not fear serious contradiction when I say that with the majority of practitioners the question resolves itself into one of Hobson's choice. In short, they find themselves handicapped by having so many remedies to choose, that they cannot decide which one to pick.

In its proneness to exhibit a great variety of clinical pictures, lupus erythematosus almost parallels eczema and syphilis. A dime-sized patch of faintly reddened skin on the cheek may be the sole evidence of the affection in one patient; a terribly disfiguring, wide spreading, scar producing, intractable,—nay, incurable—affliction may be its manifestation in another patient. Between these two extremes the trained eye will recognize many eruptions which are so diversified in appearance, their units so unlike one another in shape, size, consistence, color, surface markings and general make-up, that often the question obtrudes itself, whether a given eruption is truly one of lupus erythematosus.

Without going into the details of its symptomatology, it may be of service briefly to review the chief clinical features of the disease.

### CLINICAL MANIFESTATIONS.

For practical purposes, we may say that the disease manifests itself in two well-defined clinical forms: 1, the fixed, circumscribed or discoid and 2, the disseminated. The fixed type is prone to be chronic; its sites of predilection are the nose and cheeks, the ears and the scalp; the lesions are usually sharply margined, level with or slightly raised above the healthy skin, the



central portion being frequently depressed; the color may be pink, reddish, purple or violaceous; if accompanied by scales, grayish; if by crusts, a reddish-brown. The eruption is usually bilateral and symmetrical in distribution, most often attacking the bridge of the nose and adjacent skin of the cheeks (bat-wing or butterfly type), the shells of the ears and the scalp. On the face, the naso-labial furrows not infrequently sharply delimit the lower borders of the "bat-wings." Infiltration of the affected skin may be slight or quite pronounced. Peripheral œdema may be marked, or it may be entirely absent. Individual patches are usually round or roughly oval in shape. The most important surface markings are the small, closely adherent scales, the patulous follicular orifices and the superficial teleangiectatic vessels. The patches increase in size by an extension of their margins and by the coalescence of independent lesions, or satellites. The course is slow; a plaque may persist for years without exhibiting any tendency toward involution or further progression. In many cases, the central portion of the diseased area involutes spontaneously, resulting in a depressed and atrophic scar, while the periphery of the patch may advance, at the same time that the mid-portion cicatrizes. The disease attacks the mucous membrane of the lips not infrequently, less often the buccal and lingual mucosæ. In some instances, instead of being grayish in color, scaly and flattened, the plaques may be dark red or violaceous, smooth and considerably raised above the surrounding skin by an intense œdema of the affected tissues. Involution may take place spontaneously, with or without the production of scar tissue and depigmentation. Subjective sensations usually are absent, but itching and burning sometimes occur.

Should the disease implicate the scalp, corresponding areas of permanent alopecia will result.

The disseminated variety occurs in two forms: 1. In small, scattered, pink and red, circular and oval, scaly or crusted, at times naked patches, implicating chiefly the face, ears, scalp, neck, chest and hands; in the severe and widespread cases, lesions may appear anywhere on the skin and the buccal mucosæ. The plaques vary in size from a lentil to a silver dollar, may be flattened and level with the normal skin, or perhaps slightly elevated, very little or not at all infiltrated. Some of the lesions show a tendency toward slight atrophy in the centre. At times the eruption closely simulates erythema multiforme; on the trunk it may resemble pityriasis rosea. Eruptions of this type may be preceded and accompanied by fever and malaise, joint pains and prostration. The course is usually rapid, old spots vanishing and new ones appearing on the same day. Most of the lesions are evanescent, involuting without leaving a trace. Other patches, more especially those on the face, scalp and backs of the hands, are more prone to remain and become fixed. I recollect an instance in a young woman, rapidly losing ground from the ravages of pulmonary tuberculosis, in whom lesions of this kind would be present on the face and hands in the evening, to have vanished on the following morning. Itching and burning sensations often accompany the attack. 2. In large, diffused areas, sometimes involving extensive portions of the integument, as the entire face, the ears, scalp, neck, arms and chest, with larger and smaller islands of perfectly normal skin scattered here and there. The surface markings in this type are usually uniform; the color may be pink, red, yellowish or violaceous; scaling is usually scant, but may be abundant on the face and backs of the hands. Teleangiectases are commonly observed in the older plaques, but may also occur in recent lesions. The margins of the patches are not well defined and neighboring lesions soon coalesce to form the diffuse type of eruption. Infiltration of the skin is usually slight, but in some cases the integument seems to be adherent to the underlying tissues, simulating a diffuse scleroderma. The course, in contrast to the scattered variety, is slow and the eruption assumes the char-

acter of the so-called fixed type of the disease. Involution frequently takes place, with little or not any subsequent atrophy and scar formation. The lips and buccal mucosæ often share in the process. Subjective symptoms are not pronounced.

The discoid, small disseminated and diffuse disseminated types of eruption may appear in the same patient at different times, or coincidentally. Periods of quiescence and of activity, remissions and exacerbations, are of common occurrence. Lesions which for months seem to be indolent and inactive, will, for reasons unknown, suddenly bloom up into a state of activity, becoming angry looking, inflamed and œdematous, the margins steadily encroaching upon the hitherto healthy adjacent integument.

On the buccal mucous membranes, the lesions vary a great deal in appearance. On the vermillion of the lips, there is usually a round or elongated, oval shaped, dry, somewhat scaly, bluish or violaceous plaque, which, on palpation, often feels as though it were imbedded in the lip. Fissures and painful ulcerations may supervene. On the buccal mucosa the lesions vary in size from a pin-head to that of a silver dime; they may be eroded and somewhat depressed in the central portions; sometimes the surface appears papillomatous; a red areola may surround some of the spots; occasionally the borders may be distinctly elevated, thereby giving the impression of a sunken central portion. In some instances the patches closely simulate leukoplakia—in fact, in the absence of cutaneous lesions of lupus erythematosus to serve as a clue to the diagnosis, a differentiation from leukoplakia may entail considerable difficulty. On the tongue, palate and pharynx, the affection is seen rarely.

#### ASSOCIATED CUTANEOUS AFFECTIONS.

A certain proportion of patients with lupus erythematosus,—perhaps a quarter or even a third,—present evidences of other dermatoses, either coincidentally with the original trouble, or independently of it. Such concomitant dermatoses are much more frequently encountered, in my experience, in the disseminated, than in the discoid or fixed type of the disease. In the chronic, fixed type, epithelioma occasionally appears as a complication, the growth taking root and progressing in the midst of the previously diseased tissues. In the disseminated variety of the disease, perniones of the hands and feet are relatively common. Next in frequency is the so-called papulo-necrotic tuberculide, almost always implicating the extensor surfaces of the forearms and legs, as well as the palmar and dorsal surfaces of the hands. Similar papular eruptions may occur on the face, in the guise of acnitis. Erythema induratum or Bazin's disease, an affection of the skin and subcutaneous tissues of the legs, occurring almost only in young and middle-aged women, is not infrequently encountered in association with an eruption of lupus erythematosus on other parts of the body. Seborrhœic eczema is thought by some observers to be a frequent concomitant eruption, but it is more than likely that such efflorescences are in reality manifesta-

tions of erythematous lupus itself, at least in the majority of patients. Seborrhœic eczema certainly does not "predispose" one to lupus erythematosus, any more than does rosacea. "Seborrhœa congestiva" is an old name for lupus erythematosus; the sooner it succumbs to old age, the better. Instances have been recorded of the association of lupus vulgaris with lupus erythematosus—an exceedingly rare coincidence. Now and then we encounter discoid patches of lupus erythematosus which simulate lupus vulgaris so closely, that nothing short of a microscopic examination reveals the true character of the lesion.

#### TREATMENT.

GENERAL. The majority of patients with lupus erythematosus are usually as healthy as the average normal individual. It goes without saying that if there should exist an associated or entirely independent disturbance of the general economy, every effort should be directed towards correcting it. At the same time, the integumentary lesions must be treated exactly in the same manner as though the patient were well. Internal medication alone has no effect whatever on the skin disease. Every text-book submits a long list of drugs and medicines, the virtues of which have been highly extolled by this or that enthusiast, at some time or another. In recent years, quinine has been extensively used, apparently with some success; but as the quinine is usually administered in conjunction with iodine, applied externally (Holländer's method), the therapeutic effects of the internal medication necessarily remain more or less *sub judice*. Personally, I have never seen quinine, even when ingested in large doses, do any good. On the contrary, I have had patients under observation in whom the œdema seemed to grow more intense under the administration of quinine. Besnier, Brocq and Whitehouse have recorded favorable results from the internal administration of iodoform. The dose is a half grain after meals, to be gradually increased to tolerance. At first, the patients will complain of gastric discomfort shortly after swallowing the drug, but the majority gradually become accustomed to it. I have never observed tangible results from the administration of ichthyol.

I think that these two medicines, quinine and iodoform, are the only ones of a long list deserving of a thorough trial, but I have little faith in the effectiveness of either.

The acute disseminated and chronic diffuse varieties of lupus ery-

thematosis are sometimes encountered in patients afflicted with pulmonary tuberculosis, or tuberculosis of other viscera. It is recognized as a well established fact that an acute, exanthem-like attack of erythematous lupus must be regarded in the light of a danger signal pointing to a rapidly advancing and frequently fatal phthisis. Needless to say that all cases demand a thorough physical examination and should there be the slightest suspicion of a focus of tuberculosis in any part of the body, proper and expeditious treatment of the patient himself is of far greater importance than that of his skin disease. In some cases of this kind, the dermatosis may involute spontaneously, while a pulmonary tuberculosis advances to a fatal ending. In the discoid variety, I believe such complications to be unusual.

One must never lose sight of the fact that erythematous lupus not infrequently disappears without any special treatment. This is especially true of the superficial, non-scaly and non-infiltrated types of eruption. Some patients have learned that an attack may be aborted by a brief sojourn in the country or by a sea trip. In some instances, living in a cold climate seems to provoke an attack, while warm weather hastens involution of the lesions. From all this, it will be readily inferred that the response to treatment—the reaction of the diseased tissue to various remedies—is as diverse and varied as are the clinical manifestations of the disease itself.

#### LOCAL TREATMENT.

The local treatment of the disease by far outweighs in importance all other modes of attack, in view of our lamentably limited knowledge of its pathogenesis. The local treatment has for its object the complete and permanent eradication of the affection, with the least amount of scarring and atrophy in the implicated skin.

The selection of remedies varies considerably, depending largely upon certain obvious factors, some of which are:

1. The sites of the lesions; the tissues which are attacked.
2. The size of the patches to be treated.
3. The duration: acute, subacute, chronic.
4. The character of the eruption: single discoid; multiple discoid; bat-wing variety; disseminate, scattered variety; diffuse variety.
5. The character of the lesions: they may be smooth, scaly, crusted, verrucous, even ulcerated; their surfaces may be level with the



skin, raised above, or be sunken below it; the patches may be inflamed, oedematous and infiltrated, or they may present no obvious inflammatory signs. Teleangiectases may form the most prominent feature of a patch, or these may be absent.

6. The general health of the patient: is tuberculosis or other serious disturbance to be reckoned with?

7. The social position, occupation and environment of the patient.

Most of these items are in themselves so suggestive that they require no amplification. I will refrain from entering into minute details and rather confine myself to a more restricted general discussion.

To a large extent, the site of a lesion on the skin or the mucosa influences the selection of the remedy directed against it. For example, the upper eyelids and the lips usually require much milder applications than the cheeks or the scalp. With regard to its size, we may safely apply a cauterizing agent (a strong acid, for example) to a dime-sized patch, while a diffuse area, several inches in diameter, obviously does not lend itself to such a drastic procedure; the local reaction would be too severe and the trauma may lead to a serious general disturbance. The acute, exanthem-like eruptions, frequently disappearing, as they do, of their own accord, usually call for only the blandest remedies; the subacute cases require a somewhat more energetic form of treatment; while the chronic, fixed type oftentimes baffles the most expert dermatologist in his efforts to bring about a cure. In the diffuse variety, destructive and even irritating applications are to be avoided. The individual peculiarities of the various types of eruption call for a considerable amount of judgment in the selection of the different remedies to be employed; scaly and crusted lesions must be denuded; severely inflamed areas must be calmed down; oedema and swelling must be made to subside, when possible; a discoid patch presenting an atrophic scar in its interior should be attacked in its peripheral, advancing portion, only. Teleangiectatic patches are prone to be far more recalcitrant to treatment than those in which the surface is free of dilated blood vessels; they therefore demand a more drastic treatment. As to the presence, in the patient, of other affections than that of the skin, I have spoken of that before; direct your efforts toward the cure of the patient and never mind the skin disease for the time being. The social position and environment of a patient cannot be ignored; a pampered society woman with a "butterfly" patch of lupus erythematosus marring her features will presumably not

submit to the same methods of treatment as a husky 'longshoreman, similarly afflicted, who cares little for the gibes of his associates, and who is anxious to be rid of his trouble, regardless of the means employed. Another item which often demands consideration is one relating to the large group of our patients who are compelled to work daily to supply their immediate needs. Remedial agents which tend to make their skin disease more repulsive, if only for a fortnight, might—in fact, often do—cost them their positions in office, factory, or what not. And so one could go on, almost indefinitely. I bring out these several points, merely to emphasize the need of judicious selection in the choice of remedies, applicable to different eruptions and different patients; and if some one who seeks to acquire information in condensed form should ask you the inane question (and often I hear it): "What is the best treatment for lupus erythematosus?" you may make the sententious rejoinder, "That depends."

#### LOCAL REMEDIES.

We come, now, to the consideration of the remedies which have proved to be the most practical in combating the different varieties of the disease. Of these remedies there are a great number. Instead of mentioning most of them, I will call into requisition as few as is consistent with an intelligible and coherent presentation of the subject.

For practical purposes, three classes may be considered:

- (1) Sedative and astringent.
- (2) Stimulating.
- (3) Cauterant and destructive.

1. Of the first class, I have found the following to be reliable: (a) Wet dressings of saturated solution of boracic acid; wet dressings of Burrow's solution, 1 to 5; wet dressings of ichthyol, 5% solution in water. Calamine lotion and calamine liniment\*. Lassar's paste. So much for the sedative agents. (b) Lotio alba and lotio alba compound\*; solution of resorcin, 2%, in 80% alcohol; an ointment of 2% of resorcin and 5% of sulphur, in ungt. zinci oxidi; pure alcohol. These act as astringents.

2. Of the stimulating agents, one of the best is a stronger lotio alba

compound\*; an ointment containing 5% of salicylic acid and 10% of precipitated sulphur, with zinc oxide ointment as a base; 10% of salicylic acid, incorporated in soft soap. Mercurial plaster.

3. Trichlor-acetic acid. Carbon dioxide pencil (or liquid air). High-frequency spark. Ionization. X-ray. Radium. Ultra-violet ray (Kromayer lamp, Finsen lamp). Ointments of pyrogallic acid and chrysopaic acid, in strengths of 4 to 10%. These constitute the cauterant and destructive remedies.

It is sometimes consistent with practical and intelligent therapy, to utilize two, three or even more of these agents in the same patient, at the same time, or at different times. For example: a young woman presents the chronic or fixed type of erythematous lupus, affecting the scalp, shells of the ears, nose and cheeks. On the scalp, the individual patches may well be treated with the Kromayer ultraviolet light, employing the filtered ray, with pressure exerted against the skull, to bring about dehæmatisation of the tissues; in the shells of the ears, with their curved and uneven surfaces, such a procedure would be impractical; here, radium or the pencil of carbon dioxide may do well; a circumscribed, discoid patch on the cheek will respond very satisfactorily to the carbon dioxide treatment; a patch on the bridge of the nose, close to the canthus of the eye, is perhaps best treated with trichlor-acetic acid. As stated, upon the judicious selection of remedies depend satisfactory results. Unfortunately, however, even in the hands of experts, many patients are subjected to numerous abortive "trials by ordeal." If certain remedies, thoroughly tried, fail to do the work, other remedies must be given a chance to show what they can accomplish. In the chronic, fixed variety, the most promising results are obtained by (1) carbon dioxide

#### \* CALAMINE LOTION (Ormsby).

Pulv. calamin., ʒ iv  
Pulv. zinc. oxid., ʒ iv  
Glycerin., ʒ ii  
Sodii biborat., ʒ ii  
Aq. calc., q.s. ad. ʒ viii.

#### LOTIO ALBA.

Zinci sulphat., ʒ i-iv  
Potassi sulphuret., ʒ i-iv  
Make separate solutions of each, then add rose water, to make ʒ iv.

#### CALAMINE LINIMENT (Pusey)

Powdered tragacanth,	ʒ 1
Phenol and glycerine, mixed,	aa. m. 10
Zinc oxide and calamine,	aa. ʒ 1
Olive oil,	ʒ 4
Water, q.s., ad.	o 1
Oil of bergamot,	gtt. 20-50

(See THE JOURNAL, Dec., 1916, xxxiv, p. 826.)

#### LOTIO ALBA COMPOUND.

To Lotio Alba, add precipitated sulphur, 1 to 2 drams.

pencil; (2) trichlor-acetic acid; (3) ultraviolet light; (4) radium. Among the foreign dermatologists, several have reported good results from the use of X-rays, high-frequency sparks, ionization and the Fin-sen light. Curettage is strongly advocated by George H. Fox.

In the acute and subacute disseminated variety, in which the lesions are superficial, more or less scattered, free from scales and non-infiltrated, soothing applications are indicated. Calamine liniment, or, if the patches are markedly œdematous, calamine lotion, are best employed. After the acute stage has subsided, lotio alba compound may be substituted. In the event that some of the patches, after a certain lapse of time, show no inclination to resolve, we must resort to the more stimulating or to the destructive remedies. It must always be borne in mind that in this variety—exanthematoid in character—the eruption frequently disappears without aid. Associated dermatoses, such as Bazin's disease, perniones, papulo-necrotic tuberculides, etc., must receive appropriate treatment. But above all, the patient himself requires the most careful attention—not his skin.

In acute and subacute inflammatory eruptions, associated with redness, itching, burning and œdema, wet dressings are applied until the inflammatory symptoms subside, exactly as one does in a cellulitis. If the patches are covered with adherent scales, the wet dressings may be advantageously followed by Lassar's paste or soft soap, with which 2% of salicylic acid has been incorporated. After removal of the scales, it is best to employ the soothing and astringent remedies, such as the calamine lotion and liniment, or the milder lotio alba compound. If the patches are numerous and widely scattered, this mild treatment may be kept up for weeks,—if necessary, even months—at a time, without resorting to stronger remedies. Most cases of this type respond favorably to such a plan of treatment. The same applies to the diffuse disseminated variety of the disease, excepting that in these the inflammatory manifestations subside more slowly, in most instances. The large, diffuse areas of inflamed skin are treated, in the earlier stages, with the lotions mentioned above; after subsidence of the inflammation, mild ointments of resorcin and sulphur, or salicylic acid and sulphur, gently rubbed into the skin with a soft flannel cloth and then applied as a generous coating, often give good results. Should this plan, after a thorough trial, prove to be ineffectual, recourse must be had to the stronger ointments, such as those containing pyrogallol and chrysarobin. In one



very widespread instance, I observed marked improvement from X-ray therapy.

In patients presenting the chronic, fixed and circumscribed patches, probably the best form of treatment consists of applications of carbon dioxide "snow." It is easily obtained wherever "soda stands" exist, is inexpensive, easily handled, and the technique of treatment is extremely simple. A little practical experience is required to be able to judge correctly just how much pressure is to be exerted with the pencil of "snow" and how long to sustain pressure on a given lesion. It is always wise to refrigerate the healthy skin, beyond the border of the patch of lupus, for an eighth to a quarter of an inch. If the centre of the patch is smooth, pale and atrophic, showing that the disease in this portion of the lesion has become inactive, only the peripheral portions require treatment. Shortly after refrigeration, signs of acute inflammation and cedema supervene, followed by the formation of large, tense bullæ which soon burst, giving place to an adherent crust. The resulting wound is not molested, but the crust is allowed to remain until it separates of its own accord; this usually requires ten days' to two weeks' time. The procedure may be repeated at fortnightly intervals. In employing this form of therapy, it must be borne in mind that scarring results from the more energetic applications of the remedy and care must be exercised to avoid provoking excessive reactions. It is best to freeze relatively small areas of skin at the same sitting—say an area not exceeding a silver half-dollar in size. If the lesions are much smaller—a quarter to a half inch in diameter, several may be subjected to refrigeration at the same sitting. Be sure that the patches are free of scales before you apply the "snow."

Trichlor-acetic acid is a useful remedy in selected instances. It may be used in full strength, but usually a 50% solution suffices. After the scales have been removed, the acid is applied by means of a small pledget of cotton, attached to a toothpick; it is gently rubbed on the patch with a circular motion, until the skin turns white. It is especially applicable for lesions situated on the upper eyelids, on the lips and the buccal mucosæ, in the grooves formed by the alæ of the nose, in the shells of the ears, etc. Near the eyes, it is well to first surround the patches by a ring of collodion, a little beyond the margin of the lesion. If the patient should complain of severe burning or itching, the action of the acid may be partly neutralized by the application of a pledget of cotton, soaked

in cold water or weak alcohol. In superficial, non-infiltrated spots, a 10 to 25% solution of the acid answers all purposes. A thin, brown, adherent crust forms within a few days of the treatment; in the course of two weeks the crust separates, when the application may be repeated if necessary. In small patches affecting the scalp, the acid is an excellent remedy. When the disease implicates large areas of the scalp, most of the curative agents which have been mentioned seem powerless to stop its progress; complete and permanent baldness following lupus erythematosus of the scalp is a not uncommon misfortune. Probably the most logical means of combating the disease in cases of this kind is by radiotherapy, the ray being more efficacious than the hard ray.

Gratifying results are obtained from ultraviolet light treatment. The method requires considerable technical training and, like the Finsen treatment, is tedious and time consuming. In a general way, the end result of this form of therapy is rather better than that obtained from refrigeration, the scarring being usually much less pronounced than that following the use of carbon dioxide. It is therefore especially useful in the discoid variety of the disease, affecting the face of young women.

Radium, in the hands of the expert, is to-day regarded as a remedy of the greatest value, more especially for the chronic, fixed lesions. Properly administered in selected cases, probably less scarring results from its use than from any other method of treatment. The danger of subsequent teleangiectasia and atrophic scarring, however, is ever present, and must be guarded against, as in X-ray therapy. It is needless to say that X-rays, radium and ultraviolet rays should be employed only by skilled dermatologists whose ability in this branch of the specialty is recognized and well established.

With regard to other forms of therapy, mentioned above, I think it is safe to say that most of them have been superseded, in the hands of the modern dermatologist, by those which I have considered at some length.

In conclusion, the fact remains that erythematous lupus is an extremely obstinate disease, often recalcitrant to the most expert treatment, with remissions, exacerbations and relapses occurring without known cause; a fatal disease in some cases, a mere blemish in others. Until its aetiology and pathogenesis are brought to light, we must content ourselves with the knowledge that the victims of the disease are receiving the most logical and rational treatment at our disposal.

# ERYTHRODERMIE CONGENITALE ICHTHYOSIFORME.\*

REPORT OF CASES WITH A DISCUSSION OF THE CLINICAL AND HISTOLOGICAL FEATURES AND A REVIEW OF THE LITERATURE.

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Continued from May-June issue

JADASSOHN, J. *Drei Fälle von Erythrodermie congenitale ichthyosiforme. Korrespondenz Blatt für Schweizer Aerzte*, 1911, xli, p. 487.

The patients were two sisters, 18 and 14 years of age, respectively, and a girl, 18 years of age, whose brother (deceased) had suffered from the same affection. In presenting these patients the author mentioned a fifth case. Accordingly, the disease was encountered in five children of three families, the parents and other children being healthy. In all but one case there was a generalized dryness and scaliness, erythroderma. In this one case the disease was limited to a few areas. There were no anomalies of the hair and nails. One of the patients presented vesicles on the feet, leucokeratotic lesions on the tongue, eczematous lesions on the body and hyperidrosis of the palms and soles. All the patients presented an erythroderma and it was noticed that the flexures were not involved. The affection in each instance was present at birth.

NICHOLAS, J., et MOUTOT, H. *Deux cas d'érythrodermie congénitale ichthyosiforme avec hyperépidermotrophie, sans bulles, familiale. Bull. Soc. méd. d. hop. d. Lyon*, 1912, xi, p. 501.

The patients were brothers. CASE 1. J. M.; age, 14. Family history, with the exception of the one brother, negative. The patient was well developed and healthy. The disease began during the first month of life with lesions in the axillæ, popliteal spaces and on the buttocks. With the exception of the centre of the face and the scrotum, the entire body was red and scaly. The scalp was markedly seborrhœic. The face, excepting the central portion, was red and desquamative. The scales were thin. The face looked as though it had been painted with collodion and that the latter had cracked and fissured upon drying. On the neck, in addition to the general redness and scaling, there were areas where the horny layer was very thick, black and arranged in polygonal or cuboidal projections. The appearance here suggested acanthosis nigricans. The upper part of the trunk was slightly scaly—the lower part resembled the integument of a crocodile. On the extremities the maximum development was in the flexures. In these areas the keratosis resembled that on the neck. The palms, soles and dorsal surfaces of the hands and feet were only slightly affected. The nails were only slightly altered but they grew very rapidly. Hair was plentiful everywhere—over-developed for the boy's age, and it grew very rapidly. The mucosa was normal. There was no sweating excepting in the flexures. The dermatosis was a little less marked during the summer months.

CASE 2. M. M.; age, 10. The first lesions were noticed two or three days

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after birth. At this time there was a generalized redness with some œdema. At the end of a month the skin over the entire body became scaly. This scalliness was most marked in the flexures. The condition of the boy, when examined by the authors, was about the same as CASE 1. The dermatosis was generalized with the exception of the palms and soles. There were blackish, conical elevations on the neck, in the axillæ, the elbow flexures, popliteal spaces, on the groin and on the pubic region. Elsewhere the skin was slightly red and scaly, the keratosis being that of ichthyosis. On the backs of the fingers were follicular plugs as seen in pityriasis rubra pilaris. The condition of the hair and nails was the same as in the brother. There was no pruritus in either case. The erythroderma was much less marked in CASE 2. The boy was normally developed and in good health.

WHITE, C. J. *Erythrodermie Congénitale Ichthyosiforme*. *Jour. Cutan. Dis.*, 1912, xxx, p. 272.

The patient was a boy, 7 years of age. The dermatosis was present at birth. It was first noticed as a roughened surface on the inner aspects of the thighs and on the buttocks. This spread gradually to the back, head and feet. Then the hands became rough, dry, thickened and fissured. Pruritus was a marked feature. When examined by the author there were large, irregularly shaped areas scattered over the entire body. Some of the plaques were round and some were elongated, as in *nævus unius lateris*. The affected skin was uniformly pinkish red, slightly elevated, slightly scaly and as a whole suggestive of *érythrodermie pityriasique en plaques disseminées*, although when the patient was first seen the scalliness were more pronounced and resembled ichthyosis.

GALEWSKY, E. *Ueber Erythrodermie congénitale ichthyosiforme*. *Arch. f. Dermat. u. Syph.*, 1912, cxiii, p. 373.

The first patient was a strong, young servant girl. The eruption had existed since birth and the family history was negative. There was a generalized erythema with here and there areas of normal skin. The redness was not sharply limited, but merged gradually into normal skin. There was a generalized ichthyosis which affected the flexures. The face, scalp, hands and feet, including the palms and soles, were involved. The nails were thickened but they were smooth.

The second case was a girl of 16. The eruption was congenital and the family history was negative. There was a generalized redness, the entire body, including the face, being involved. The patient was ichthyotic, all parts of the body showing thick and thin scales. The palms and soles were hyperkeratotic and the nails were thickened. There was a seborrhœa of the scalp.

The third case was that of a man. There was a very marked generalized redness. The face possessed a deep red color. There was no sharp line of demarcation between the red and normal areas. There was a generalized, mild ichthyosis. The palms and soles were hyperkeratotic. The hair and nails were normal. The flexures were only slightly involved.

In all three cases the flexures were involved and in places there was a papillary condition of the skin, suggesting ichthyosis cornea and even hystrix. They all presented an exfoliation of the scalp.

A histological examination was made in one case. There was a thinning of the epidermis as a whole with a thickening of the horny layer. The papillæ were flattened. There was an increase in the number of superficial blood vessels with some dilatation. There was little if any infiltration. The lymph spaces were slightly dilated and increased numerically. There was abundant pigment in the corium. The elastic and connective tissues were normal.

The author states that the clinical picture presented by these three cases,



in a general way, corresponds to that observed by Brocq—namely, a congenital affection which persists throughout life, without causing serious disturbances, manifesting itself by a yellowish-red discoloration of the skin, more or less pronounced, sometimes reaching the characteristic hue of an Indian's face. In addition there is an ichthyosis-like condition of the skin, which also varies in degree, hyperkeratosis of the hands, feet and nails, in certain cases especially the nape of the neck, and in the joint flexures; a considerably increased proliferation of the papillæ, sometimes suggesting ichthyosis hystrix. All these patients presented a well marked exfoliation on the hairy scalp. The disease is more common in females than in males; sometimes several members of the family are affected.

The first case of this disease was apparently described in 1895 by Sangster,\* under the title of congenital exfoliation. The second case was published by Rasch,\* in 1901, under the name of "*erythrodermia exfoliativa universalis congenitalis familiaris*." The first detailed description of this disease was given by Brocq,\* in 1902, under the name of "*erythrodermie congénitale ichthyosiforme avec hyperépidermotrophie*." Schonfeld,\* in 1909, described a further case of this disease. The next two cases were published by Nicolas and Jambon.\* In the same year Terebinsky (*Praktitschesky Wratch*, 1909, No. 38, p. 401), reported two cases, one with, and one without the formation of vesicles. The last three cases were demonstrated in 1911, by Jadassohn."

DARIER, M. J. *Erythrokeratodermie verruqueuse en nappes, symétrique et progressive*. *Bull. Soc. franc. de dermat. et de syph.*, 1911, xxi, p. 252.

B.; age, 31, male. Family history, negative. The affection began when the patient was one year old. The first lesions appeared as small, symmetrical spots on the thighs, abdomen, back and forearms. These lesions resembled persistently dirty skin (*crasse persistante*), later becoming verrucous. By the time he was 9 years old these parts were completely covered with the eruption. There was some doubt as to the time of development of the eruption on the hands and feet. It was possibly present at birth. The lesions spread peripherally, the advance being slowly progressive until, by coalescence, large plaques were formed. As the patient matured the progress of the eruption became slower and in the last few years, with the exception of the neck and flanks, it appeared to be at a standstill.

When presented before the Society, the extremities and most of the trunk were covered with a continuous verrucous mass—both hyperkeratotic and erythrodermatous. Several parts were absolutely normal—they were the entire head with the exception of the ears, a portion of the upper part of the chest and back, a portion of the neck, a portion of each flank, the pubis and the genital organs. The lesions and the normal areas were symmetrically placed. The thickness of the horny layer varied according to the location. It was less marked in the axillæ, on the neck, and the hands and feet. It was moderate on the forearms, the legs and the popliteal spaces. It reached its maximum on the trunk, the thighs and the arms, where it formed a layer of from 8 to 10 millimetres in thickness. The thickened horny layer did not form a smooth plate, but was composed of papillary projections giving rise to a verrucous appearance. Here and there was a cutaneous horn. The color ranged from a dirty yellow to brown and where the eruption was most intense the color was black. All the affected parts presented an underlying and constant erythroderma. In the axillæ there was considerable maceration. The palms and axillæ were always humid. There was a slight pityriasis of the scalp. There was a decided butyric or fetid odor from the patient. The hair, excepting in the verrucous parts, was not materially altered.

\* A description of these cases will be found under the authors' names in the "Review of the Literature." We could not obtain Terebinsky's article.



Fig. 20.—Darier's case of erythrokeratodermie verruqueuse en nappes, symetrique et progressive (Bull. Soc. franc. de dermat. et de syph., 1911, 21, p. 252).

Besides the erythroderma and hyperkeratosis of the hands there were dilated follicles containing removable keratotic plugs on the dorsal surfaces. The palms were not very red, only slightly thickened and scaly. The soles were only slightly affected while the dorsal surfaces of the feet presented the same appearance as did the corresponding surfaces of the hands. The nails were long and incurved but not thickened.

Scattered here and there over the affected surface were small areas that the patient insisted were undergoing a gradual involution. The patient was normal, physically and mentally. The pulse was rapid—95 to 100.

**HISTOPATHOLOGY.** There was an enormous, pure, adherent hyperkeratosis. The horny layer undulated in accordance with the projections and depressions of the papillary layer. The prickle layer was sensibly thickened, especially between the papillæ. The prickle cells were flattened by pressure from above and below. The granular layer was present, but was reduced over the papillæ. The keratohyaline granules were irregularly placed. The papillæ were long and narrow, sometimes even thread-like. The upward projection of the papillæ produced a markedly wavy epidermal surface. The papillary body was sometimes œdematous and showed a moderate perivascular infiltration, mostly of small lymphocytes and connective tissue cells with numerous mast cells. There were few if any plasma cells. The derma appeared condensed and thickened. The elastic tissue was irregular and fragmented in the papillary body—otherwise it was normal. The sweat glands and ducts were dilated. The sebaceous glands were well developed. The hairs seemed rather atrophic.

The author states that his case can be differentiated from ichthyosis vulgaris hystrix by the erythroderma, by the large, marginated and circumscribed sheets, the cutaneous horns, the involvement of the flexures, the evolution and the histology. He does not, however, enter into details regarding the histological differentiation. He dismisses pityriasis rubra pilaris and psorospermiosis with a word. Darier believes that there are two orders of affections to which his case might belong, both of which, in his opinion and in the opinion of others, are intermediaries or transitions: 1st, the verrucous and hyperkeratotic nævi and 2nd, the group comprising ichthyosis congenita, congenital hyperkeratoses and *érythrodermie congénitale ichthyosiforme*. Verrucous nævi may occur in extensive sheets, they may be more or less symmetrical, and there may be marked hyperkeratosis and cutaneous horns. While it is uncommon to have an erythematous base in this type of nævus, erythroderma will not exclude such a diagnosis. Furthermore, nævi need not be visibly congenital nor need they be permanent. They may appear at birth, at puberty or even later. They may develop for long periods or they may undergo involution. A nævus is a non-inflammatory, new formation of developmental, intrauterine or embryonic origin. In this way the author argues that, if his case is not a nævus, it at least approaches the nævi. In this sense he would call it generalized, congenital hyperkeratosis, or circumscribed, congenital hyperkeratosis, of which the malady of Meleda is a clinical type. But, the author states, it is difficult to classify his case among the nævi on account of its being a progressive dermatosis which finally invaded almost the entire body—in other words, it is hard to believe that this could be a congenital defect. The author's conception of *érythrodermie congénitale ichthyosiforme* as described and classified by Brocq, and Lenglet, is sufficiently broad to include certain circumscribed forms, such as congenital keratosis of the palms and soles, which may or may not be accompanied by a more or less generalized hyperkeratosis, the familial hyperkeratosis of the palms and soles and the flexures, described by Neumann and Ehlers and known as the malady of Meleda. In this group he also includes his own case. He thinks, though, that it deserves a separate position, because it is not congenital and because the



lesions are so progressive. As approaching his case clinically the author mentions the case of Dubreuilh-Brocq.\* It differed by a greater development on the extremities and by less hyperkeratosis, which might be due to the age of the patient. The evolution was about the same. Brocq and Dubreuilh were inclined to classify their case with the malady of Meleda, which they regarded as a *nævus*, rather than with the localized forms of *érythrodermie congénitale ichthyosiforme*. Darier is inclined to accept this opinion. Nicolas and Jambon's\* second case and Thibierge's\* case of unusual ichthyosis with involvement of the mucous membranes, are also regarded as similar to the author's case. Finally, Darier gives to his case the title of *érythrokeratodermie verruqueuse en nappes, symétrique et progressive*, which he separates from true ichthyosis and places in the vicinity of ichthyosiform erythroderma and in particular, the malady of Meleda and also the verrucous *nævi*.

In discussing this paper, Brocq said that until now, among the congenital dermatoses characterized by erythroderma, hyperkeratosis, and slow evolution, we had recognized as types which were more or less clearly defined, 1st, *érythrodermie congénitale ichthyosiforme* and 2nd, circumscribed forms, including most of the cases of palmar and plantar keratoderma and the malady of Meleda. But now, thanks to Dubreuilh and Brocq, Darier and Thibierge, we find another type, not analogous but related to the others, the characteristics of which are as follows: 1, begins soon after birth; 2, erythroderma, slight or marked, usually primary, but at times secondary, as in Darier's case; 3, a relatively rapid evolution, progressive, with final symmetrical involvement of extensive surfaces; 4, lesions so circumscribed that at first glance one thinks of a verrucous *nævus*. This new type is a neighbor in symptomatology to *érythrodermie congénitale ichthyosiforme*, but nosologically it must be placed among the *nævi*.

Thibierge admits that the term ichthyosis should not be employed in connection with his case. It belongs in the same group with Darier's.

BURNS, F. S. *A Case of Generalized Congenital Keratoderma. Jour. Cutan. Dis.*, 1915, xxxiii, p. 255.

Male; 16 years of age; partially blind and totally deaf, but otherwise well developed mentally and physically. The family history was negative. The eruption was first noticed at the end of the first year at which time, also, the impairment of vision and of hearing began. The dermatosis had lessened considerably in intensity during the last six years. The eruption was generalized and exhibited a predilection for the face, the palms and soles, and the flexures of the knees. With the exception of a xerodermic-like skin, the greater part of the trunk was exempt.

On the scalp and the back of the neck there were spine-like, keratotic lesions. These lesions, Burns thinks, are to be explained by compression of the papillæ and overlying hyperkeratosis. He states that these lesions are regarded by Unna, with whose opinion Burns is in accord, as a consequence of hyperplasia of the horny layer and not a distinctive element of an eruption. From the photographs, both clinical and microscopical, there is a suggestion that these clinical lesions might also be produced by a keratosis of the follicles. The hair was sparse. The face was symmetrically affected. Here the skin was thick and rough and covered with fine, adherent scales. "Beginning at the level of the brows and extending outward and downward to a point midway between the malar prominence and the antitragus, the process continues in the form of an uneven, somewhat reticulated band, meeting at the mouth on either side and completely covering it, and thence extending further downward, finally terminating at about the level of the thyroid cartilage.

\* A description of these cases will be found under the authors' names in the "Review of the Literature."



The coarse, reticulated shape on the face stands out with fairly pronounced margins. The affected skin is grayish in hue, with a moderate degree of rather dull, underlying erythema. The involvement of the nose apparently forms a part of the general configuration on the face, the process extending on to nasal mucous membranes. . . . Both auricles are thickened and slightly reddened. Certain areas over the apparently unaffected portions of the face show, on close examination, many minute acuminate keratoses." The photograph of the face shows what might be either numerous areas of normal skin or areas of atrophy, giving rise to a reticulated appearance. "The upper limbs are symmetrically involved to the elbows. Both palms are greatly thickened and present a coarse, stippled appearance over their surfaces, due to a profusion of minute depressions, somewhat resembling those to be seen in keratosis follicularis of Brooke. The backs of the hands and contiguous portions of the forearms are of a light, dull-red color, considerably thickened, and show greatly exaggerated lines of cleavage." Desquamation was slight and branny in character. There was a pronounced dystrophy of the nails. The lower limbs presented the same condition, both as to character of eruption and location, as did the upper limbs.

**HISTOLOGY.** "The stratum corneum was everywhere thickened and showed great irregularities of cornification. Its surface presented a jagged, wavy line, due to thinning of the rete over the papillary projections; the relatively depressed spaces between the papillæ being filled with horny material. The cells of this layer contained no nuclei, keratinization evidently being complete. The granular layer varied in amount from decided thinning to considerable hypertrophy. In sections from the neck, where the keratotic activity was greatest, it frequently almost disappeared. The stratum mucosum was irregular in amount. In places it became compressed to a few rows of cells, while in others there was a moderate amount of acanthosis. Cornification was so generally active that the horny layer was formed at the expense of the prickle cells. In fact, in many regions there seemed to be an almost direct transition of the basal cell layer into horn cells. Hyperplastic portions of the rete were mainly formed by an increase of basal cells. A quite pronounced protoplasmic swelling was discernible throughout the prickle cells. Here and there, horny pearls were seen within the rete. Horn tissue also invaded the hair follicles and, in the corium, formed large whorls. The stroma of the corium showed no abnormalities. Inflammatory infiltration was nowhere evident. The sebaceous and coil glands were normal except that their ducts were somewhat thickened and constricted."

Clinically, Burns separates his case from ichthyosis on account of the localization. He believes it resembles Brocq's ichthyosiform erythroderma. Histologically he thinks that the hypertrophic granular layer and the absence of inflammatory infiltration would tend to differentiate his case from ichthyosis.

RASCH. *Erythrodermia Exfoliativa Universalis*. *Dermat. Ztschr.*, viii, 1901.

The patient was a woman, 32 years of age, whose two brothers had suffered from the same condition of the skin. The eruption began very shortly after birth. The face had a striking color, passing in different places from a yellowish-red to a deep copper-red. The skin was of normal thickness, but was of a dark-red hue over the entire body, except the palms of the hands, and the soles of the feet, as well as the flexor surfaces of the fingers and toes. It was everywhere covered with scales. The scales were as fine as paper, 2-3 cm. long, 1-2 cm. wide. On the elbows and on the internal and dorsal surfaces of the toes large collections of scaly masses could be seen. The nails of the fingers and toes were deformed, strongly curved and traversed by longitudinal furrows. The lanugo hairs were unusually developed over large areas of the body; otherwise the hair was normal. The patient presented a large number of cutaneous nævi. There were no exacerbations. Perspiration occurred during

the hot weather. The scalp was involved. At times there was considerable desquamation. Rasch thought his case was very similar to that of Sangster's and that it belonged to the ichthyosis group—a sort of ichthyosis rubra.

**HISTOLOGY.** The epidermis was very thin. The basal layer was normal with the exception of a few mitoses. In some areas in the rete there were clear spaces around the nuclei. The cell limits were very distinct. There was no distinct and connected granular layer. In place of the latter there were, here and there, widely scattered areas—eleidin bodies of different size and shape. The stratum lucidum was absent, so that the horny layer was in contact with the granular layer. The demarcation between these two layers was very sharp. In the deep layers of the stratum corneum, there were long, flat, linear, small, nucleated cells, lying in thick lamellæ; sometimes 7 or 8 layers (parakeratosis). At times these nucleated cells extended to the surface of the horny layer. In other places the horny layer was free of nuclei. The corneous strata were loosely bound together. The papillary bodies were irregular—some were flat and broad; others were elongated and pointed. In the papillary body there were many blood filled capillaries which were surrounded by many mast cells and a few plasma cells. There was no round cell infiltration. In the subpapillary layer there was a probable slight mucinous degeneration of the connective tissue. The elastic tissue was normal. There were no hair follicles or sebaceous glands in the sections; the sweat glands were normal.

The author states that the above findings indicate a parakeratosis of a special type. It seems analogous to ichthyosis, with which affection it has in common the direct transition from rete to horn cells—also the atrophy of the papillary body. The red color of the skin is probably due to the many thin-walled, blood-filled vessels which shine through the markedly thin skin. The author could give no information relative to ætiology but he states that the condition was not due to a local inflammatory condition.

SCHONNEFELD. *Ein Fall von Erythrodermie congenital partialis.* *Arch. f. Dermat. u. Syph.*, xcvi, 1909, p. 101.

The author's observation concerned a woman, 40 years of age, with congenital, brownish-red to copper-red, discoloration of the scalp and hands. This condition remained stationary, without changes, desquamation, or special subjective disturbances. In the last seven months the patient developed considerable seborrhœa and tylotic eczema of the hands; the author leaves it an open question whether this should be referred to the congenital affection; it is not excluded that this trouble was incited through an unknown factor, in consequence of a special predisposition of the skin. The brown-red color was explained in part by the abundant pigment in the epidermis and corium, and in part by increase in number and size of the capillaries in a thinned epidermis. The histologic infiltration of the papillary body, and the perivascularitis were not manifested clinically in any fashion.

**HISTOLOGY.** Under low power, the epidermis was seen to be considerably narrowed with flattening of the papillæ, infiltration of the papillary body, increase of the capillary plexus, with streak shaped infiltrations, and abundant pigment in the corium. The horny layer was moderately thickened, but no parakeratosis was found. The stratum lucidum was wanting, whereas the stratum granulosum presented two or three well-developed cellular layers. The stratum spinosum was considerably reduced, usually existing only in a thickness of two or three rows of cells. Only a few mitoses were found in the basal layer. The palisade layer was absent in some localities, in others it was slightly œdematous, and it was placed horizontally. The cells were partly filled but for the most part surrounded by very fine pigment granules. The papillary body was blurred and obliterated for long distances, with small cellular infiltrations in the well-developed areas. In some localities, espe-

cially where the palisade layer was missing, an infiltrate was seen interspersing the epidermis as far as the stratum corneum. The horizontal vascular plexus in the corium was increased, the vascular lumina were considerably dilated, without being filled with blood corpuscles. All the vessels were surrounded by a small cellular infiltration. The lymph spaces were likewise dilated and increased. Pigment in thick granules, sometimes in small flakes, was seen to traverse the entire length of the corium, usually enclosed in cells. Staining with sulphur-ammonium showed that this was not hæmosiderin. The elastic fibrillar plexus, the fibrin and the connective tissue, presented no abnormal changes. The sebaceous glands and the sweat glands were likewise without special features, but they were surrounded by a small cellular infiltrate.

BRUHNS. *Die atypischen Ichthyosis Fälle und ihre Stellung zur Ichthyosis congenita und Ichthyosis vulgaris.* Arch. f. Dermat. u. Syph., 1912, cxiii, p. 186.

Girl; age, 3 years. The dermatosis was congenital and began with generalized redness and slight scaliness. When examined by the author there was no erythroderma but there was a generalized ichthyosis vulgaris. There were areas of very heavy scaling and in places the horny layer was very thick, elevated, black and resembled ichthyosis hystrix. The flexures were especially involved. The face, the palms and soles were affected. On the face the skin was atrophic and retracted. In many places the skin was thrown into folds. The hair and nails were normal regarding both their appearance and rate of growth. The family history was negative. The child was normally developed and in good health.

HISTOPATHOLOGY. There was a very pronounced hyperkeratosis. The thickened horny layer extended down to the lower third of the hair follicles. The granular layer and the rete were essentially normal. The papillary body contained a few areas of slight infiltration. The infiltrating cell was lymphocytic.

COLLOMON. *Zur Kenntnis der Brocqschen Krankheit.* Arch. f. Dermat. u. Syph., 1912-13, cxiv, p. 503.

Male; age, 36. The eruption began when the patient was 26 years of age. It consisted of red, scaly plaques which began on the hand and in a few months involved the trunk and extremities. There were irregularly scattered, circular, oval or linear, bright-red, bluish-red or reddish-brown, sharply circumscribed, slightly scaly plaques of varying size. There were punctiform hæmorrhages around the plaques. The hair had disappeared in the affected areas. There was a long period of quiescence which was followed by more or less spontaneous retrogression. The diagnosis was based upon the histological findings, which were as follows: There was a rather marked infiltration of the papillary body which was not entirely perivascular and which was composed mostly of lymphocytes and connective tissue cells, with a few mast cells. Plasma cells were entirely absent. There was considerable œdema of the pars papillaris with a marked dilatation of the lymph spaces. The papillæ were flattened. In the epidermis there was considerable intra- and inter-cellular œdema, leading to complete cell destruction in area (*alteration cavitaire*). Collections of leucocytes were noted as, also, were vesicles in the rete. There were no mitoses.

THIBIÈRE, G. *Cas extraordinaire d'ichthyose généralisée avec altérations buccale et nasale et des cornées.* Bull. Soc. franc. de dermat. et de syph., 1892, iiii, p. 322.

Edmond B.; age, 12 years. Family history, negative. The eruption began 15 days after birth as a 25-cent piece-sized, grayish, slightly thickened patch



on the nose. This lesion slowly increased in size and covered the cheeks by the sixth month. The eruption then gradually spread over the entire body. The patient never had any hair and the eyesight was always very poor. The general health was good. Mental and physical development was about normal.

When presented before the Society the following features were noted: Almost complete baldness. The scalp was thickened and seborrhœic in appearance. The face was dry and slightly scaly excepting near the centre, where the skin was very thick and papillomatous or even verrucous and of a yellowish-gray color. Moist, fissured lesions were present at the commissures of the mouth. The eyelashes and eyebrows were almost entirely absent. The skin of the neck was thickened and slightly scaly. The skin of the entire trunk was slightly thickened and scaly. There were no thick crusts or papillomatous elevations excepting at the umbilicus. The normal skin markings were exaggerated.

The axillæ presented a papillomatous or verrucous skin with some moisture and maceration. The color here was almost black. The arms and forearms presented an ordinary ichthyotic condition with a marked thickening of the horny layer in the folds of the elbows and over the extensor surfaces of the articulations. The flexures were moist. The color here was brownish-black. The palms were not markedly affected, but the dorsal surfaces of the hands and fingers presented a thickening of the horny layer and a brownish-black color. The nails were slightly thickened.

There was no pubic hair. The external genitals were poorly developed. The skin of the penis and scrotum was papillomatous and blackish in color. The gluteal folds and the folds of the groin were verrucous. There was considerable moisture and maceration in connection with the genitals. The condition of the thighs and legs was about the same as that of the upper extremities. The popliteal spaces, while involved by the process, were not as badly affected as were the elbows. The extensor surfaces of the knees presented a markedly thickened horny layer, papillomatous and brownish black in color. The feet presented the same features as noted on the hands.

The tongue presented somewhat the aspect of a scrotal tongue. The mucous membrane of the cheeks was thickened and thrown into folds and was opaline in color. The nasal mucosa was also affected.

In the central part of both corneæ there was a superficial, grayish infiltration, beyond which there were numerous fine vessels. The vessels of the conjunctivæ were also dilated. The patient exhaled a fœtid odor. The eruption was absolutely symmetrical. There was no sweating.

The case resembled, in many respects, what English authors term *sauroderma*. In some places the condition of the skin suggested an attenuated type of ichthyosis *hystrix*. In fact all the varieties of ichthyosis were represented with the exception of the very thin and brilliant scales seen in *ichthyosis nacrée*. The flexures are never involved in true ichthyosis. Besnier applied the term of *ichthyosis paratypique* to the disease when the location or distribution was unusual. The author believes that English and American observers are at fault in regarding certain lesions of the mucous membrane as ichthyosis. Ichthyosis *linguale* is a variety of buccal psoriasis as described by Bazin or a leucokeratosis secondary to some other disease. Church's case (*St. Barthol. Hosp. Rep.*, 1865, p. 198) the author regards as one of ichthyosiform verrucous *nævus*. It was unilateral, and involved the tongue, the roof of the mouth and the mucous membrane of one cheek. The mucous membranes, the author states, are never involved in ichthyosis *vulgaris*. Thibierge sums up his case as follows: "Generalized ichthyosis beginning at the age of 15 days, in an infant in the family of which there was no other case of ichthyosis. Generalized lesions of corneous ichthyosis on the entire cutaneous



surface, with exaggeration of the lesions (ichthyosis hystrix) on the central part of the face, on the backs of the hands and feet and in the flexures of the articulations of the upper and lower limbs. Seborrhœa and almost complete alopecia of the scalp, eyebrows and eyelashes. Thickening and wrinkling of the buccal and nasal mucosa. Superficial opacities of the central part of the corneæ, with enlargement of the vessels at the periphery of the corneæ and of the conjunctivæ."

THIBIÈRE, G. *Ichtyose foetale ou intrautérine*, La pratique dermatologique, ii, p. 851

Ichtyose fœtale or intrauterine ichthyosis is a malformation of the skin which is present at birth. The deformities are such as to be, as a rule, incompatible with life, so that the infants usually die a few days after birth. Occasionally, however, the individual survives and presents a condition similar to, but which can be differentiated from, true ichthyosis. The condition is known under various names: ichthyosis congenita, congenital keratosis, diffuse congenital keratoma, *Keratome malin congénital*, *hyperépidermotrophie généralisée*, fœtal hyperkeratosis and ichthyosis sebacea.

The author first described the fatal form of the disease. This description will not be given here as the affection is described in all the large text-books in the English language. Of particular interest, however, is Thibièrre's exposition of a benign or attenuated type. The skin of the entire body is thickened at birth, the nose is more or less flattened and there is ectropion of the eyelids. In some instances, as in the cases of Caspary,\* Behrend and Hallopeau and Watelet,\* the skin is like dry, cracked collodion. The movements of the articulations are interfered with to some extent. The deformation of the face is not enough to seriously interfere with opening and closing the mouth, so that sucking is possible. These children live and become healthy, but the condition of the skin, although undergoing considerable improvement, always remains thick and scaly. As in true ichthyosis, the scales are dry, adherent, separated by superficial depressions and are of various dimensions and thickness; sometimes verrucous. In differentiating ichthyosis congenita from ichthyosis vulgaris, the author states that in the former the scales are more often loose at their margins, they are more likely to be imbricated, they are likely to be separated, not only by a superficial fissure or crack, but by slight scarring. After the squame has desquamated there remains a quadrillage marked by linear cicatrices which cross each other in an irregular manner. Furthermore, the articular folds (flexures) which are spared in ichthyosis vulgaris, are the seat of a verrucous hyperkeratosis in which the horny excrescences are disposed in linear series. Finally, there is little if any interference with the function of the glands of the skin; perspiration may even be normal. The hair and nails grow unusually rapidly. Hair, however, is less abundant than in normal individuals. Ichthyosis congenita, with the exception of the cases reported by Okel and Houel, is not hereditary.

HISTOLOGICALLY, the author also considers that the two affections are quite different. In ichthyosis congenita there is a diffuse hyperkeratosis with a hypertrophy of the sweat glands and an atrophy of the hair follicles. In an oral communication from Darier, the latter sums up the histopathology of three cases of ichthyosis congenita in adults as follows: The horny layer was enormously thickened and was composed of remarkably dense and adherent lamellæ, and which contained less fat than normal. The granular layer was well developed and rich in eleidin. The mucous layer was thickened. The papillæ were elongated and irregularly enlarged. There was a moderate, perivascular infiltration of small round cells in the papillary body. Fat drop-

\* A description of these cases will be found in the review of Lenglet's thesis.

lets were found in the papillæ and in the subpapillary layer. The hyperkeratosis involved the follicles. The sebaceous glands were atrophied. The secreting epithelium of the sweat glands showed some degeneration. Darier admits that most of these findings are observed in the more severe types of ichthyosis vulgaris, but the diminution of fat in the epithelium and the presence of fat droplets in the derma, are special features in the histopathological alterations of ichthyosis congenita.

PERNET, GEORGE. *Bullous Ichthyosis*, *Brit. Jour. Dermat.*, Nov., 1911.

The patient, a female child, was 4 months of age when first seen, in 1902. She was kept under observation for two years. The family history was negative. The eruption was present at birth and consisted of bullæ and generalized exfoliation. Later, the case developed into one of frank ichthyosis with occasional bullous attacks. There is no mention of erythroderma. In commenting on the case the author considers the possibility of Ritter's disease with concurrent ichthyosis. He quotes Brocq, relative to *pemphigus successif a kystes epidermiques*, as follows: "La peau des malades est sèche, xerodermique; elle présente de la kératose pileaire; dans un cas que nous avons vue chez notre maitre, E. Besnier, elle était franchement ichthyosique; aussi le savant dermatologiste a-t-il pu considérer cette dermatose comme une forme particulière d'ichthyose, et l'a-t-il appelée ichthyose à poussées bulleuses" (*La pratique dermatologique*, iii, p. 827). Attention is also called to von Düring's case of *Ichthyosis mit pemphigoiden Eruptionen* (*Monats. f. prakt. Dermat.*, 1892, xv, p. 608). Pernet calls attention to the following, which is important to the literary student: "As far as I can make out the case referred to by Brocq, as Besnier's, is really the case shown by Vidal under the name of *lésions trophiques d'origine congénitale à marche progressive*. It was apparently this case that Besnier, in the discussion that followed, named *ichthyose à poussées bulleuses* (*Ann. de dermat. et de syph.*, 1889, p. 577). This Vidal case is cited by von Düring as also a case of Hallopeau's, shown under the label of *dermatose bulleuse infantile avec cicatrices indélébiles, kystes épidermiques et manifestations buccales* (*Ann. de dermat. et de syph.*, 1890, p. 414). Finally, the author considers the question of ichthyosiform erythroderma, of which very little was known at the time, and concludes that his case is probably closely related to this disease.

GASSMANN, A. *Histologische und klinische Untersuchungen über Ichthyosis* (Monograph), *Wilhelm Braumüller*, Wien und Leipzig, 1901, 218 pages.

Gassmann has written an excellent monograph on the subject of ichthyosis in which he discusses all phases of the disease. Unfortunately the work was published or at least was on the press before the first articles on the subject of ichthyosiform erythroderma had appeared, so that it would not be profitable to give a review here. The book is very exhaustive and contains many cases possessing symptoms that cause the author to separate them from true ichthyosis. Some of these could, perhaps, be placed under the heading of ichthyosiform erythroderma. As a matter of fact many of these atypical cases will be found in our "Review of the Literature." Every dermatologist should possess and read this monograph, and we acknowledge our indebtedness to Gassmann's work for it has been of inestimable value in providing us with a broad knowledge of the subject of ichthyosis.

#### ANALYSIS OF THE CLINICAL SYMPTOMS.

Forty-five cases, including our patients, have been selected for this analysis. Most of these cases correspond to Brocq's description of ichthyosi-

form erythroderma. Some of them, however, are apparently transitions between this disease and ichthyosis congenita, verrucous naevus, ichthyosis vulgaris, mal de Meleda, etc.

Of the 45 cases, 24 were males and 16 were females. In 5 instances the sex was not mentioned. It is seen, then, that the affection is a little more common in males than in females.

Regarding nationality, 20 cases were reported from France, 17 from Germany, 5 from the United States, 1 from Holland, 1 from Russia and 1 from England.

Heredity was encountered in only a few instances. Rasch's patient had two brothers who presented evidences of the disease. Bizard and Langevin report 3 cases in the same family—a mother and 2 children. Nicolas and Jambon state that the mother of their patient had ordinary ichthyosis, an uncle had a probable psoriasis and a grandfather a probable ichthyosis (xerosis). Jadassohn reports 3 children in one generation of the same family—the parents were normal. Nicolas and Moutot's patient had a brother who was similarly affected. Brocq, Fernet and Desaux observed 6 cases in 3 generations of the same family. In one of our cases there were two examples of the disease in the same generation.

It is advisable to enter into the analysis of the hereditary influence a little more deeply. Rasch's cases (2 brothers) were typical examples of ichthyosiform erythroderma. Bizard and Langevin's patient was a woman who had the bullous type of the disease and who had one infant who presented a generalized redness and numerous bullæ with beginning keratoderma. Nicolas and Jambon's patient presented circumscribed patches of erythroderma and hyperkeratosis—the circumscribed or localized type. In all but one of Jadassohn's patients there was a generalized redness and ichthyosis. The one exception was a patient with circumscribed patches. One patient presented vesicles on the extremities and leucokeratotic lesions of the buccal mucosa. Both patients reported by Nicolas and Moutot showed typical symptoms of the dry type. The six cases presented by Brocq, Fernet and Desaux were all of the circumscribed type—erythematous, hyperkeratotic lesions of the flexures, palms and soles.

There were a few facts in the family histories of some of the cases that might be of ætiological significance. In one of Thibierge's patients the father was probably syphilitic; the mother was a psoriatic and she had had several miscarriages. In another case reported by the same author the father was thought to be a syphilitic. Brocq and Fernet state that the father of one of their patients was alcoholic and the grandfather was a syphilitic. Our Cases 3 and 4 were syphilitic.

The affection was congenital in 31 cases. In 5 instances the disease began in from 3 days to 5 weeks after birth. In 3 cases the disease developed at the end of the first year; in 1 case at the end of the second year; 1 case in the fifth year, and 1 case in the twenty-sixth year. In 3 instances the date of onset was not mentioned. In many of the cases where the dermatosis was first noticed a year or two after birth, the history was unreliable and the authors admit that the affection might have been congenital. Colloman's case, which began in the 26th year, was of the circumscribed type and it was not typical—there is some doubt about the diagnosis. The cases reported by Brocq, Fernet and Delort, and by Brocq and Dubreuilh, as beginning in the 5th and 2nd years respectively, also were of the circumscribed, transitional varieties. It is noteworthy that all the cases corresponding to Brocq's original description of the disease were either congenital or began very shortly after birth.

As regards location, the affection was generalized or universal in 37 cases. In 6 cases it was limited to scattered, circumscribed, symmetrical plaques.



The scalp presented a scaly or seborrhœic condition in 20 cases. The face was specifically mentioned as being involved in 16 cases. The skin of the face was retracted and there was more or less ectropion in 7 cases. The flexures were involved in 37 instances. In 5 of Jadassohn's patients these parts were normal. Even in the circumscribed type of the disease the flexures were involved in most instances. The palms and soles were markedly affected in 15 cases; slightly so in 7 cases.

The hair or nails grew very rapidly in 9 cases. In 4 instances the hair of the scalp and body was unusually abundant. In 6 cases the hair was very poorly developed—agenesia. In one instance (our Case 1) there was agenesis of the nails. The nails showed dystrophic changes—striæ, ridges, furrows, excessive thickness, etc., in 10 cases.

With one exception there was little if any sweating of the general surfaces. There was perspiration of the face in one case and hyperidrosis of the axillæ and palms was encountered in many of the patients. The patients perspired more in summer than in winter.

With four exceptions the general health was unaffected. In Brocq's and Fernet's case there was a history of convulsions, gastrointestinal disturbances and severe rheumatism. In addition, the patient was distinctly tuberculous. Brocq, Fernet and Desaux state that their patient was in delicate health. Syphilitic stigmata were noted in 4 cases. An enlarged thyroid was encountered in 3 patients. Pernet's patient was in very poor general health.

Regarding deformities and unusual clinical features, one of Thibière's patients presented a scrotal tongue, infiltration of the corneæ and thickening of the buccal mucosa. In Rasch's case there were many cutaneous nævi. Nikolsky's sign (traumatic exfoliation of the epidermis) was present in Danlos' case. In most instances the bullous lesions (in the bullous type) were situated on parts subjected to traumatism and some of the authors admit that the lesions might have been due to slight injury. One of Jadassohn's patients presented some atrophy and pigmentation of the skin. Brocq called attention to a more or less generalized pigmentation and a palmar keratosis in one of his cases which he thought might be due to arsenic. Lenglet, in reviewing the literature, found a number of cases with atrophy which in some instances resembled scleroderma. In Brocq and Fernet's cases the teeth were black, striated, furrowed and widely separated. Nikolsky's patient presented several congenital defects. In Collomon's patient there were punctiform hæmorrhages around the margins of the lesions. Darier reports numerous cutaneous horns. Only 3 patients were underdeveloped, mentally and physically. Follicular keratosis of the dorsal surfaces of the fingers was noted by Darier, Nicolas and Moutot and Brocq.

The Wassermann reaction was performed in 5 cases—it was negative in 3, the others being positive. The von Pirquet test was negative in the cases reported by Brocq, Fernet and Desaux, and MacKee and Rosen's first patient; it was positive in Brocq and Fernet's patient.

In the majority of the cases there were no subjective symptoms. In the bullous type there was some pain at the site of the bullæ. Pruritus, in the dry type, was severe in White's patient and mild in a few other cases. Constitutional symptoms were absent excepting in the bullous type, where indisposition and a slight elevation of temperature accompanied the outbreaks of the lesions. In Bizard and Langevin's patient, which was thought to be an example of possible intrauterine ichthyosis, the infant was very feeble and it died on the fifth day. The autopsy revealed nothing of importance.

Remissions and exacerbations were noted by several observers. Besnier and Doyon observed bullous attacks only during the summer months. There was only one such attack during the cold season. On the other hand, all the authors, who report cases of the bullous type, noted that the outbreaks were



more common in winter. They all agree that the production of bullæ is not constant and continuous excepting at the very inception of the disease. Later the bullous eruption occurs as distinct outbreaks which become more infrequent and which may cease altogether as the patient matures. Even in the dry type the disease is likely to improve in the summer, or at various times of the year, either spontaneously or as the result of medication. As a rule this improvement is only temporary although there may be a general tendency toward amelioration as the patient grows older. However, there is no record of complete recovery. Several authors have called attention to the fact that the erythroderma may gradually improve and even disappear. In one of Nicolas and Jambon's patients (dry type) the spontaneous remissions and exacerbations of the dermatosis was a marked feature of the case and were considered by the authors as being analogous to the bullous outbreaks in the bullous type. In another case observed by Nicolas and Jambon (dry type) there was a temporary, almost complete retrogression of the dermatosis following each of two vaccinations and, also, after an attack of scarlet fever. In Darier's case (circumscribed type) there was a gradual progression, without remissions, over a period of several years. Finally the disease remained quiescent and in areas retrogression could be detected.

Erythroderma, either generalized or in areas, was seen in all but the patient reported by Bizard and Langevin, 4 of Jadassohn's cases and one of Thibierge's patients. Jadassohn makes the definite statement that there was no erythroderma in any of his series of 4 cases (dry type). The diagnosis in these cases is, however, not definite. In his second series there was erythroderma in each individual. Thibierge failed to notice erythroderma in one case but its presence was later ascertained by Brocq and it is quite possible that it was present but overlooked in his other patient. Thibierge's cases were both of the bullous type. Bizard and Langevin and Pernet fail to say whether or not erythroderma was present in their cases (bullous type).

Thickening of the horny layer, either generalized or in patches, and ranging from furfuraceous scales to warty excrescences, was found in all cases.

Bullæ were encountered in 12 cases. For the most part they were flaccid, but in a few instances they were well filled with serum. They developed spontaneously, although several authors were suspicious of a traumatic influence in some instances. They were never hæmorrhagic and they healed quickly without leaving scars or epidermic cysts. They were most common on the legs and feet and were small, but in some cases they were more or less generalized and as large as the palm of the hand.

#### SYNOPSIS OF THE HISTOLOGICAL FINDINGS.

This synopsis is based upon 11 reports found in the literature and our own cases. It embraces the work of the following authors whose cases will be found in the "Review of the Literature": Nikolsky, Joseph, Glawtsche and Metscherski, Neuburger, de Buy Wenniger, Nicolas and Jambon, Galewsky, Darier, Burns, Rasch and Bruhns. The cases of Schonnefeld and of Colloman have been omitted because there was so much doubt about the clinical diagnosis.

There was a marked hyperkeratosis in all cases. In most instances the cells or lamellæ were compressed and quite adherent. Nikolsky noted spaces filled with leucocytes in the thickened horny layer. In Rasch's case there was some parakeratosis. In a few instances the layers of the horny layer were not firmly welded together. The thickened horny layer extended deeply into the follicles in several cases, especially in Burn's case and in our Case 2. In two instances it involved the orifices of the sweat ducts. The stratum lucidum

was mentioned in only one report—it was present in Nicolas and Jambon's case. The surface of the epidermis was wavy, undulating or thrown into folds in 8 cases.

The granular layer was not mentioned by Nikolsky, Glawtsche and Metscherski, and Galewsky. It was absent in Rasch's case. It was normal in 3 cases. Neuburger and Darier report a thickening of the granular layer excepting over the papillæ. Burns, and MacKee and Rosen report this layer thickened in some areas and thinned in others. In Burn's case it was absent where the keratinization was most marked. Nicolas and Jambon noted a single layer of granular cells.

There was a moderate acanthosis, especially between the papillæ, in 7 cases. The rete was thinned in 4 cases. It was found to be very thin at the top of the papillæ in most instances. In most cases there were no especial alterations in the mucous layer. In our first case the prickle cells stained poorly and in our second case there was a peculiar dyskeratosis. Nikolsky encountered spaces filled with the remains of degenerated epithelial cells and grains of keratohyaline. In Darier's case the cells were flattened from pressure exerted from above and below. In Burns' case the thickened portions of the epidermis was composed mainly of basal cells while over the papillæ the horny cells were formed almost from the basal layer. Burns does not definitely identify his case as one of ichthyosis or ichthyosiform erythroderma. He calls it congenital generalized keratoderma. It is a difficult case to classify and for the present it may be considered as a transition.

The basal layer was normal in most instances. Nikolsky and Burns found this layer to consist of several strata of cells in places. The former noted numerous mitoses. Rasch and Neuburger also encountered mitotic figures and the latter found considerable pigment. In Nicolas and Jambon's sections the basal cells were flattened over the papillæ. The papillæ were elongated in the tissue studied by Darier, Rasch, MacKee and Rosen, Nikolsky, Neuburger, de Buy Wenniger and Burns. In several instances the rete pegs in places were flattened out. This was especially so in our sections and Rasch's and Burns' microphotographs show this formation to some extent. In Galewsky's case the pegs were flattened. Nicolas and Jambon report them as being normal. Nikolsky says they were enlarged and in one instance they were thickened.

Slight or very slight signs of inflammation were noted in the papillary body and subpapillary layer in 10 cases. There was no inflammation in 2 instances. Mast cells were noted by Darier and Rasch. Pigment was found by Joseph and Galewsky. Neuburger, and MacKee and Rosen report the derma as being thinned; Nicolas and Jambon found it thickened. Darier found the connective tissue condensed and thickened; Rasch encountered slight mucinous degeneration.

The elastic tissue was normal in 3 instances. It was reduced and fragmented in 5 cases. The coil glands were normal in 4 cases. They were superficially placed and slightly degenerated in Neuburger's sections and in our second case. They were found to be dilated by Darier and in our first case they presented both a fatty and hyaline degeneration. There were no unusual alterations in the sebaceous glands in any of the specimens excepting that they were rudimentary in our second case. The subcutaneous fat was absent in Neuburger's case.

#### GENERAL CONSIDERATIONS.

We assume that the reader has perused and is acquainted with the "Review of the Literature" which consists not only of a report of cases

but which includes the opinions of the various authors. It will be seen that ichthyosiform erythroderma is complex in its manifestations. The two essential clinical features are a thickening of the horny layer and an erythroderma. The thickened horny layer consists of a hyperkeratosis of varying degree. It may be manifested by a slight, branny, scalliness as in the simplest types of ichthyosis (xerosis—ichthyosis nitida) by closely set, thin horny plates as in the more severe forms of ichthyosis simplex (ichthyosis serpentina), by very thick horny plates as in ichthyosis sauroderma and, finally, by warty excrescences as in ichthyosis hystrix. The color of the skin, where there is no erythema, may be a light-gray, dirty-gray, brownish, dark-gray, greenish and even black. In cases where the affected skin is very dark in color and thickened, acanthosis nigricans is suggested.

The erythroderma may be very pronounced or it may be inconspicuous. It may be permanent or it may disappear after a few years.

Associated with these constant symptoms there is an occasional increased growth of both the hair and the nails. On the other hand, cases have been reported where there was an underdevelopment of the hair. The nails may or may not be thickened, furrowed, etc. Congenital defects in the teeth, the eyes, the ears, and cutaneous horns and nævi have accompanied the affection in a very few instances. Deficiency of development, both mental and physical, exceptionally occurs. In one or two instances the mucous membranes were involved. Occasionally a case is encountered in which there are bullæ and vesicles. Usually such lesions develop spontaneously, are flaccid as a rule, never hæmorrhagic, and heal without leaving scars or epidermic cysts. In one case Nikolsky's symptom (removal of epidermis by light pressure) was present and in several instances the observers were suspicious of a traumatic origin.

As to location, the disease may be universal, generalized, circumscribed, or localized. When generalized the face is likely to be markedly affected, the axillæ, the elbow flexures and the popliteal spaces are almost always involved and frequently the maximum of development is found at these sites. The palms and soles are likely to be more or less involved. This involvement ranges from a slight cutaneous thickening to a condition identical with the essential palmar and plantar congenital keratoderma. The genitals are occasionally affected and there is usually more or less seborrhœa or pityriasis of the scalp.

When circumscribed or localized, the affection may be limited to the

palms and soles, to these sites together with the axillæ, elbows and knees, or there may be various sized, margined or poorly defined plaques scattered over the body.

The condition may be present at birth or it may not develop for weeks or months after birth. It may be, but it is usually not hereditary. At times the first sign of the dermatosis is the erythroderma, the keratoderma developing shortly thereafter. On the other hand the two manifestations may develop simultaneously or the keratoderma may precede the erythroderma. Usually the localization of the affection is determined in infancy, but in many instances the evolution of the dermatosis is slowly progressive for many years. Later, there may be some regression, especially of the erythroderma and if there are bullæ, they cease to appear. Periods of improvement and exaggeration are common. The former are likely to occur during warm weather. On the other hand temporary retrogression, independent of the elements, either spontaneous or following local applications, vaccination and the acute exanthemata, have been noted. Sudden exacerbations have been encountered in the dry type and in the bullous type the bullæ always occur in distinct outbreaks.

Desquamation is usually rather slight, the thickened horny layer being rather adherent, but at times there is considerable shedding and rapid reproduction of the scales. Desquamation is likely to be most pronounced during hot weather.

Sweating occurs only in hot weather excepting in the axillæ and on the hands and feet and occasionally on the face. In these locations there may be a hyperidrosis.

Atrophy is occasionally encountered. The skin of the face may be retracted with the production of more or less ectropion and in a few instances there was a scleroderma-like condition of the legs. Horny, follicular plugs are frequently seen.

Histologically, there is a pure hyperkeratosis which is usually quite adherent. The thickened horny layer may extend into the hair follicles for a considerable distance and it may even involve the orifices of the sweat ducts. The granular layer varies from complete absence to increased thickness, not only in individual cases, but in a single section from one case. The rete may be moderately acanthotic, or it may depict varying degrees of compression and thinning, depending upon its relation in respect to the papillæ and probably, also, to the stage and particular characteristics of the affection and the part of the body from



which the skin is removed. The rete hardly ever presents noteworthy features other than those just described. Occasionally a peculiar type of œdema or dyskeratosis is encountered. The rete pegs may be flattened out or they may be enlarged and anastomosed. The papillæ may be broad and flattened or they may be narrow and elongated. The surface of the epidermis is likely to be found undulating. There is usually slight inflammation of the upper part of the derma. The capillaries are dilated and surrounded by a slight to moderate lymphocytic infiltration. The connective tissue is usually unaffected; it may be slightly œdematous, thickened, thinned, or slightly degenerated. The elastic tissue is likely to be slightly reduced and fragmented. The coil glands are usually normal, but they may be dilated or show evidence of degeneration. The orifices of the coil ducts are likely to be compressed. The sebaceous glands are usually unaffected.

The above is a brief summary of the clinical and histological features of ichthyosiform erythroderma based upon a review of all of the reported cases. Practically all students of this disease are willing to regard it as a clinical entity, although there has been considerable difference of opinion relative to the exact symptom complex or just what features should be accepted as comprising this clinical entity. Most of the differences of opinion and discussion, however, have been associated with the attempts to definitely separate ichthyosiform erythroderma from true ichthyosis.

In ichthyosis the thickening of the horny layer may be very slight, as in xerosis. On the other hand there may be horny plates which bear a resemblance to those of a snake or an alligator, and in the hystrix variety there is a decided verrucous element. It is this variation in the severity of the affection that has given rise to the use of various descriptive words such as *nitida*, *necrée*, *simplex*, *vulgaris*, *serpentina*, *cornea*, *scutullata*, *sauroderma*, *nigricans*, *hystrix*, etc. The color varies from a light to a dark gray and even green and black. Desquamation may be very slight or very pronounced. It will be seen that in so far as concerns the thickened horny layer, ichthyosis and ichthyosiform erythroderma present about the same variations. The color, also, with the exception of the erythroderma, shows the same variations in both affections. Before Brocq called attention to ichthyosiform erythroderma, localized and diffuse redness was occasionally observed in cases that were regarded as ichthyosis—hence we find in the

text-books and in the older literature the term ichthyosis rubra. Even in Thibière's benign congenital ichthyosis, Brocq observed an erythroderma. At the present moment we have under observation an adult male who presents a mild type of ordinary ichthyosis. His face is and always has been red and the buttocks are erythematous. This case we would regard as ichthyosis with localized areas of erythema—possibly a transition between ichthyosis vulgaris and ichthyosiform erythroderma.

In the literature of ichthyosiform erythroderma very little is mentioned regarding the presence or absence of keratosis pilaris. It was observed on the backs of the fingers in a few instances and caused the possibility of pityriasis rubra pilaris to be considered. This condition is usually present in the very mild types of ichthyosis and in future reports we may see recorded the presence of keratosis pilaris in cases of ichthyosiform erythroderma where the hyperkeratosis corresponds to that seen in xerosis.

Regarding localization and distribution, it is agreed that ordinary ichthyosis spares the flexures and has for predilection, the extensor surfaces of the extremities. The palms and soles are unaffected or only slightly altered. The face, too, is likely to be normal. On the other hand, the face often presents more or less scaliness and not infrequently there is a pityriasis of the scalp. The French School places a great deal of emphasis upon seborrhœa of the face and scalp in differentiating the two affections, but it is doubtful if this is a good differential point. Before ichthyosiform erythroderma was declared an entity, cases of ichthyosis were observed in which there was involvement of unusual locations—the face, scalp, palms and flexures. Such cases were designated *ichthyosis paratypique* by Besnier.

While considering the question of distribution we desire to describe briefly the following case:

CASE 5 (Fig. 21). F. I.; female; age 11. This patient (from Dr. Fordyce's clinic) presented a mild type of ichthyosis in which the affection involved the articular flexures. The skin presented the fish-skin grade of ichthyosis, the horny layer being broken into rhomboidal plates. The scales were adherent. There was no ichthyosis hystrix. There had never been any erythema. The hair and nails were normal. There was never any sweating.

We desire, also, to present another case which we find difficult to classify and which might, perhaps, be considered as a transition between ichthyosiform erythroderma and ichthyosis vulgaris. As will be seen,

there are features that are not in accord with the classical picture of ichthyosis vulgaris but in spite of that we can see no reason why it should not be placed under the general heading of ichthyosis—an atypical ichthyosis. The case was observed during the summer months when there was considerable desquamation, so that the adherent, horny plates of ichthyosis vulgaris were not in evidence. We have found it stated in the literature that the desquamation in cases of ichthyosis is slight. This is not in accord with our observations as we have seen very marked desquamation, especially during the summer months. With the exception of a slight erythema of the face and buttocks, there was no evidence of redness of the skin, nor was there any history of such. In fact, the only excuse for thinking of the possibility of ichthyosiform erythroderma was the marked involvement of the popliteal spaces and the slight, localized erythroderma. This case, and others of similar nature, demonstrates the necessity of a broader conception of ichthyosis and, also, the difficulty, if not the impossibility, of definitely separating ichthyosiform erythroderma from ichthyosis.

CASE 6. G. K.; male; age, 9 years; born in the United States. The parents were normal; two brothers had an exactly similar eruption with the exception that it was much less pronounced (Fig. 22).

The patient's face was slightly scaly, slightly erythematous and shiny. It presented a seborrhœic appearance. The scalp was normal as was the entire trunk, with the exception of the abdomen, which was the site of a keratosis pilaris. The arms and forearms showed a xerosis and a keratosis pilaris. The axillæ, elbow flexures and hands were normal. The buttocks, thighs and legs presented a universal hyperkeratosis with a maximum of development in the popliteal spaces where there was a verrucous thickening of the horny layer as seen in ichthyosis hystrix. The thighs and legs were desquamating, as they always did in the summer, but in the winter these parts were covered with dark-colored, small, closely packed, horny excrescences—in other words, a mild example of the verrucous or hystrix type. This was especially true of the lower third of the thighs, the extensor and flexor surfaces of the knees and the legs. The upper part of the thighs and the buttocks presented a xerosis. In the latter location there was a slight erythema. There was no redness in the desquamated areas. The feet, with the exception of the dorsal surfaces, were normal as were, also, the hair and nails.

The mother thought the condition developed a few months after birth. She had never noticed generalized erythema, bullæ or rapidly growing nails.

We regard this case as an example of ichthyosis. We cannot admit that the unusual location is sufficient to remove it from the ichthyosis group and it does not appear necessary to give it any special name excepting that of universal ichthyosis. Many observers refuse to classify such cases as ichthyosis, hence the title generalized congenital keratoderma, etc. Bruhns, Thibière and others have reported cases



Fig. 21.—Case 5. Ichthyosis vulgaris with involvement of the axillae



Fig. 22.—Case 6. Ichthyosis vulgaris with maximum development in the popliteal spaces.



of ichthyosis where the dermatosis involved the flexures, the palms and soles, the genitals, the nails and even the mucous membranes.

As we have seen, there are types of ichthyosiform erythroderma where the lesions are localized, circumscribed and irregularly distributed. Here, too, we can find an analogy in ichthyosis.

CASE 7. The patient was an adult male. He had pulmonary tuberculosis. He was not certain as to the time of development of the dermatosis but it had been present as long as he could remember. The skin of almost the entire body presented a condition of ichthyosis simplex. The scalp and face were slightly scaly; the neck more so. The dermatosis was most marked on the legs and dorsa of the feet. The chest, abdomen, back and the extensor surfaces of the extremities presented a mild ichthyosis simplex. The flexor surfaces of the extremities showed a xerosis. The skin of the palmar surfaces of the hands and the soles was thickened, slightly scaly and fissured. The nails and hair were normal. The articular flexures were slightly involved. The entire right popliteal space was affected. There was a small normal area in the centre of the left popliteal space. The skin of both elbow flexures was slightly thickened. The axillary folds were involved but the skin in the centre of the axillæ was normal. For the most part, the thickened horny layer was adherent, but occasionally, especially in the spring, there was considerable desquamation. At times the patient's skin was almost normal. When the patient was last seen there was a large area over the epigastric region where, as a result of spontaneous desquamation, the skin was almost free of ichthyosis.

At the March, 1916, meeting of the New York Dermatological Society, Howard Fox presented a patient with an eruption which is described by Fox as follows:

"The patient, Walter S., was a boy, 10 years of age, born in New York State. He was the only member of his family to present any abnormality of the skin. He had never attended school and was mentally backward. He presented a very extensive symmetrical eruption of the trunk and extremities, consisting of marked papillary and verrucous elevations. Some of the lesions formed solid, irregular patches while others displayed a more or less linear tendency. At least four-fifths of the body surface was involved, most of the face and areas of the buttocks and backs of the arms and legs being spared. The lesions were especially thick in the axillary and inguinal region. Between the diseased areas the skin was apparently normal and did not present the appearance of ichthyosis simplex. The color was a dirty mixture of gray and yellow. The palms and soles were diffusely thickened. Small areas had been treated by carbon dioxide snow and by radium, marked benefit following both of these methods of treatment."

Fox presented the case as one of ichthyosis hystrix and there was the usual discussion relative as to whether it represented ichthyosis hystrix or a very extensive hyperkeratotic nævus. At the present moment it is like travelling in a circle to discuss this question. There are all varieties of transitions between the small, permanent verrucous nævi and ichthyosis. These extensive cases, where the lesions may or may

not be sharply margined; where certain portions of the body may be totally unaffected or present varying degrees of scaliness, are regarded by some as ichthyosis hystrix, by others as a keratoma and by still others as an extensive nævus. As a matter of fact it makes little difference what we call a condition if we understand its nature. Certainly such an affection is a congenital anomaly of cornification and we can place it under ichthyosis or under nævus or better still, we can place them both under the general heading of congenital keratoderma. In this patient there was no erythema, no bullæ and no increase or decrease in the growth of the appendages, symptoms that would in the opinion of the French school, automatically place the case under the heading of ichthyosiform erythroderma.

In a few instances of generalized ichthyosiform erythroderma there was a marked palmar and plantar keratosis. A similar condition occurring in ordinary ichthyosis is not common, although slight involvement of these parts is frequently noted. Congenital keratosis of the palms and soles, with or without involvement of other portions of the body, when associated with erythroderma, are placed in the category of localized ichthyosiform erythroderma. This includes, also, the mal de Meleda. We can present no analogy in ichthyosis vulgaris unless the essential palmar and plantar keratosis is accepted as being an example of localized ichthyosis. Regarding the generalized type of ichthyosiform erythroderma with margined lesions, we find an analogous condition in ichthyosis, if we accept as such, cases where there are large plaques of verrucous hyperkeratosis with or without a generalized mild ichthyosis.

Both ichthyosis and ichthyosiform erythroderma may be present at birth or they may not become manifest for weeks or even months. In a few instances of ichthyosiform erythroderma the dermatosis did not appear until adult life; this would seem, possibly, to be analogous to the so-called acquired ichthyosis. Both diseases may be hereditary. And in this connection it is interesting to note the transitional types in hereditary cases. At times one member of a family will present an ordinary ichthyosis while another will be afflicted with ichthyosis hystrix or verrucous nævi. In fact many different combinations have been observed which tends to demonstrate the close relationship between many of the congenital keratoses.

Regarding the evolution and course of ichthyosiform erythroderma we call attention to the fact that ichthyosis may begin as a xerosis and

at a later period develop into a much more severe form—apparently a progressive development. Contrarily, a severe infantile ichthyosis may, in adult life, become so modified as to be hardly more than a xerosis. Permanent recovery has never been recorded in either affection. In ichthyosiform erythroderma and in ichthyosis, there are periods of remission, amounting in some instances to almost complete temporary disappearance. Sudden exacerbations have been noted in ichthyosiform erythroderma—to our knowledge this has never been observed in ichthyosis vulgaris. Ectropion, an occasional symptom of ichthyosiform erythroderma, is occasionally also observed in ichthyosis, even the very mild types. Localized hyperidrosis is apparently more common in ichthyosiform erythroderma than in ichthyosis. Congenital malformations have been observed in both affections.

The bullous type of ichthyosiform erythroderma presents symptoms unlike any ever encountered in ichthyosis, with the exception of Jadasshon's cases (see "Review of Literature"). In such cases it is possible that two diseases are present, both being supposedly caused by some congenital defect, or the condition may represent a transition between two such types as, for instance, ichthyosis and epidermolysis bullosa.

To our knowledge the excessive growth of the hair and nails as encountered in a few cases of ichthyosiform erythroderma, has never been observed in ichthyosis. The nail changes, also, are more marked in the former than in the latter condition.

Inasmuch as only a few cases of ichthyosiform erythroderma have been studied microscopically, our knowledge of the histopathology of the affection is not as complete as it will be in a few years. The histopathology is similar to ichthyosis. In one clinical type of ichthyosis, *ichthyosis nitida* (Unna) which is one of the mildest forms of the disease, there is a hyperkeratosis, complete absence of granular layer, atrophic rete (although it may be thickened in places) flattening of the rete pegs, dilated coil glands and very little inflammation. In the more severe types the granular layer is preserved, although it may be absent in places, particularly over the papillæ. The rete may be slightly thickened in places and thinned in others. There is a tendency for the papillæ to become flattened, but they may be normal, broadened or elongated in places. The coil glands are likely to be dilated, probably from obstruction of the ducts by the thickened horny layer and they may show evidence of degeneration.

The hair and the sebaceous glands, as a rule show little if any alteration, although the latter may be numerically reduced. The vessels are usually dilated and surrounded by a slight to moderate infiltration of lymphocytes. In ichthyosis the derma may be thin—that is, the subcutaneous tissue and the epidermis are closer together than they are normally. The thickened horny layer is free of nuclei, usually very adherent and extends into the hair follicles and even into the orifices of the coil ducts (FIG. 23). If there is a verrucous condition present, as in ichthyosis hystrix, or varieties that approach this type, the histology is very much the same, the differences being due, possibly, to the pressure of the enormously thickened horny layer. Here the epidermis is thrown into folds on account of the elongated papillæ and because



Fig. 23.—Dilatation and hyperkeratosis of orifice of coil duct in ichthyosis vulgaris.



the horny layer extends downward between the papillæ. The rete is very thin over the papillæ and it may be thinned, normal or thickened between the papillæ. In places the papillæ may be obliterated. In the derma there may be evidence of a slight to mild, low-grade inflammation. In FIG. 12, which was obtained from a case of verrucous linear nævus, besides a depiction of the above features, there is a marked dyskeratosis—exactly as shown in our CASE 2 of ichthyosiform erythroderma.

It would seem, then, that in its essential features the histology of ichthyosis and ichthyosiform erythroderma is very much the same. A perusal of the synopsis of the histological findings of ichthyosiform erythroderma will demonstrate minor differences which we do not feel are sufficient to distinctly separate the two conditions.

Clinically, there are features associated with ichthyosiform erythroderma which are never encountered in ordinary ichthyosis, especially is this true of the extensive erythroderma, the more marked tendency to involve the articular flexures, the occasional rapid growth of the hair and nails, the pronounced involvement of the face in many instances, the tendency of the eruption, at times, to occur in well-defined patches, the frequent association with palmar and plantar keratosis, the marked remissions and exacerbations encountered in some cases and finally, the occurrence of bullæ in some instances.

While these differences allow of a clinical type we feel that ichthyosis and ichthyosiform erythroderma should be placed in the same group, on account of the close relationship existing between them, which is demonstrated by the clinical and histological similarity and by the transitional types.

By employing the term *erythrodermic ichthyosiforme*, Brocq automatically places the condition in the large group of erythrodermas. In his excellent work on histopathology, appearing serially in THE JOURNAL, Heimann follows the French School and places ichthyosiform erythroderma under the general heading of erythroderma, in spite of the fact that the histology of the two groups is dissimilar. It would seem preferable to employ the generic term ichthyosis to designate the classification and erythroderma to indicate an essential clinical characteristic—ichthyosis erythematosæ, for instance.

Even Brocq hesitates to definitely separate the two conditions, as is shown by FIG. 24, borrowed from his *Maladies de la peau*. We also append another schematic drawing (FIG. 25) from Nicolas and

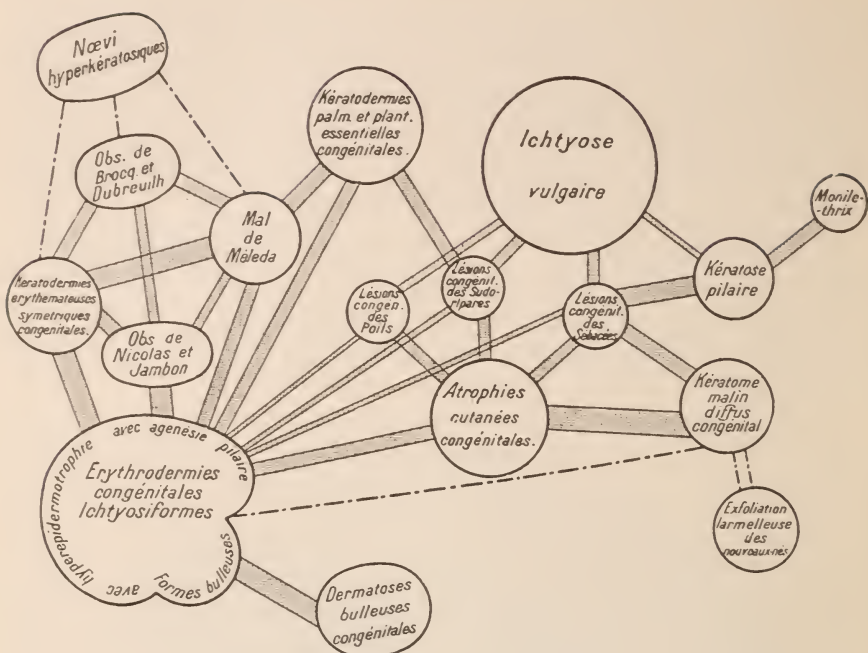


Fig. 24.—After Brocq.

Jambon's article. These diagrams also show the authors' idea of the relationship existing between these various conditions.

Until we know more about the ætiology of these affections and are in accord regarding their classification, we feel that it is preferable, at least for the sake of simplicity, to combine as many conditions as possible under one group and allow them to remain there until they can be definitely and permanently separated. In this connection we agree with those who believe that the so-called verrucous or hyperkeratotic nævi can be considered as examples of localized ichthyosis. Many pathologists refuse to admit that a lesion is a nævus unless it is due to a proliferation of misplaced cells, as in the case of the pigmented mole. On the other hand, many clinicians and some pathologists hold that any localized or circumscribed lesion that is due to a congenital defect or anomaly of development is a nævus, hence the confusion regarding the classification of ichthyosis hystrix, the hyperkeratotic

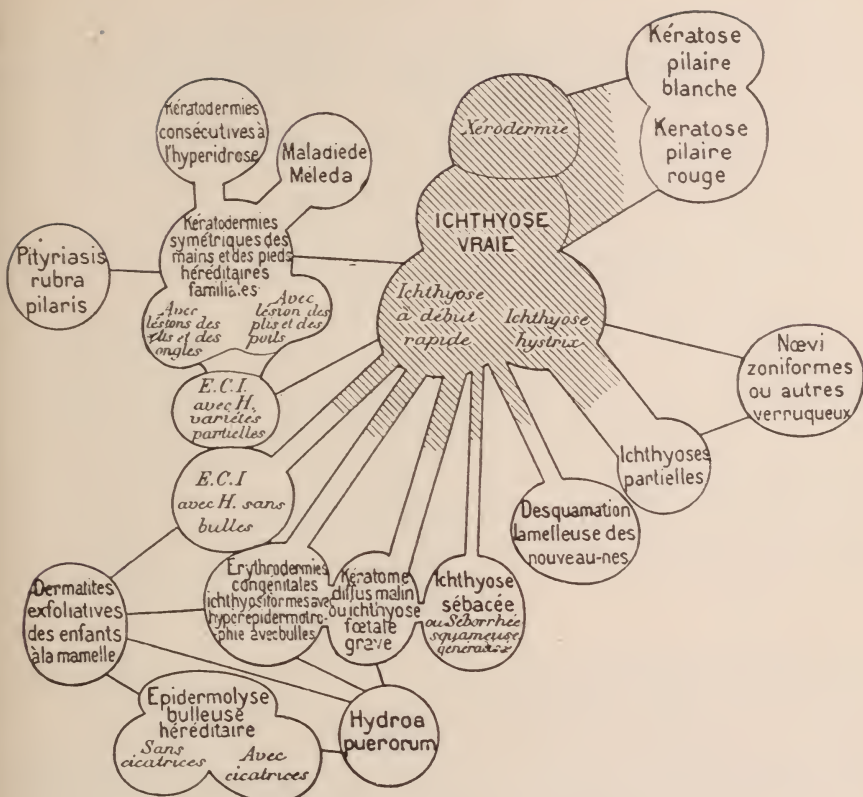


Fig. 25.—After Nicolas and Jambon.

and verrucous nævi, the essential palmar and plantar keratoses, etc. Following out this line of reasoning, and inasmuch as it is supposedly the result of a congenital defect, one might possibly, in spite of its being a generalized affection, consider ichthyosis, in this broad sense, a nævus. We are cognizant of the fact that Unna and his pupils believe that the inflammation of ichthyosis is primary and essential, but most other observers are not in accord with this theory.

There is so much difference of opinion regarding the relationship existing between ichthyosis vulgaris, ichthyosiform erythroderma, hyperkeratotic nævi and the various allied conditions that we are led to propose, as suggested by Dr. G. H. Fox, in a personal communication, that they all be grouped under the heading of congenital keratodermata as per the accompanying chart.

Congenital Kerato- dermata.	Ichthyosis	$\left\{ \begin{array}{l} \text{Xerosis.} \\ \text{I. simplex.} \\ \text{I. serpentina.} \\ \text{I. sauroderma.} \\ \text{I. hystrix.} \\ \text{I. congenita.} \end{array} \right\}$	$\left\{ \begin{array}{l} \text{Synonyms.} \\ \text{Harlequin fœtus.} \\ \text{Keratolysis universalis con-} \\ \text{genita (?) } \\ \text{Intrauterine ichthyosis.} \\ \text{I. sebacea.} \end{array} \right\}$
	Generalized congenital keratoderma (?) (Burns).		
	Keratoderma follicularis.	$\left\{ \begin{array}{l} \text{Ichthyosis follicularis (MacLeod).} \\ \text{Keratosis pilaris.} \\ \text{Monilethrix (?) } \end{array} \right\}$	$\left\{ \begin{array}{l} \text{Erythrodermie verruqueuse en nappes,} \\ \text{symetrique et progressive (Darier).} \\ \text{Erythrodermie exfoliative univer-} \\ \text{salis (?) (Rasch).} \\ \text{Benign ichthyosis congenita (Thi-} \\ \text{biërge).} \\ \text{Ichthyosis rubra.} \\ \text{Keratolysis exfoliativa congenita (?) } \\ \text{(Sangster).} \\ \text{Akrokeratoma (Neuburger).} \\ \text{Mal de Meleda.} \end{array} \right\}$
	Ichthyosiform erythroderma		
	Keratoderma pal- maris et plantaris.		
Hyperkeratotic and verrucous nævi.			

In addition to the references contained in the "Review of the Literature" we acknowledge the free use of the text-books by the following authors: Ormsby, Hyde, Stelwagon, Sutton, Heimann, Crocker, Sequeira, MacLeod, Brocq, Darier, Unna, Mraček, Jadassohn, Ziemssen, and La pratique dermatologique.

In conclusion, we desire to thank Prof. Fordyce for the unlimited use of the facilities of his department. We gratefully acknowledge valuable help from Drs. Jagle, Heimann and Satenstein, in the study of the histological material. Finally, we thank Mr. Freeman for his painstaking care in the preparation of the histological specimens and Dr. Wise, and other members of the Dermatological Department for their advice and help in many ways.



## SOCIETY TRANSACTIONS

## NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, Jan. 22, 1917.

JAMES C. JOHNSTON, M.D., *President*.TUBERCULOSIS VERRUOSA CUTIS OF THE BUTTOCKS. Presented by  
DR. FORDYCE.

During the last six months the patient, an adult male, had developed a very extensive serpiginous ulceration involving a large part of the buttocks, which on first inspection suggested a nodular serpiginous syphilide. The edges, however, where the ulceration was present, were distinctly warty in character and in this respect differed from the infiltration of a syphilitic granuloma. The patient stated that two years before he had had a sore on the penis which healed and was followed by a lesion of the thigh which had also healed, leaving a slightly pigmented scar. Repeated Wassermann tests had been made, all of which proved negative. Sections of the growth showed the presence of

## DISCUSSION.

DR. FORDYCE said the interesting feature of the case was the rapidity of its development. In this respect it was similar to a case which he presented last year, in which the ulceration had proceeded with equal rapidity. In that case also, the infection began on the glans penis, extended from there to the thighs, and later to the buttocks and perineum. In both cases there was a marked similarity to syphilis and blastomycosis, but both of these infections had been ruled out by the Wassermann examination, the absence of blastomyces, and the histological structure of the growth.

## CASE FOR DIAGNOSIS (ECZEMA FISSUM?). Presented by DR. SHERWELL.

Mr. R. B., aet. 39 years; family and personal history excellent. He came to the office with lesions in the same locality as presented, but more marked. The lesions were symmetrical on the palmar surface of both hands, on two or three of the digits, and there was a similar patch on the right foot, between the heel and ankle joint. In this last named spot the patient had received a severe traumatism from contusion in November, 1915. At first the speaker regarded it as a simple case of eczema fissum and treated it with fairly strong ammoniated mercury ungt., salicylic acid, etc. The patient made good progress for a time, then relapses would occur with rhagades worse than ever. About the same line of treatment was continued, substituting, however, mild mercury instead of the precipitate and adding tar. Each time improvement followed, and then a retrogression to the old state. Then for a short time mixed treatment was given, in view of possibilities, but with no effect excepting the ordinary physiological reaction.

The trouble dated from January, 1916, and commenced on the back of the giant cells and the general picture of tuberculosis. hand, and between the fingers,—a condition resembling dysidrosis,—and over the wrist. At that time the palms of the hands were not affected. The ankle

did not become affected until March, 1916, the contusion and laceration having occurred in November, 1915. It healed readily at that time, but had since been affecting similarly to the hands, with intervals of apparent recovery.

#### DISCUSSION.

DR. WISE thought that the case might safely be diagnosed as eczema, since it represented the usual characteristics of that disease, the uncommon feature of this eruption being the presence of unaffected areas of skin between the scaly lesions.

DR. MACKEE agreed with Dr. Wise and thought the X-ray the best therapeutic agent for such a condition when it did not yield to other methods of treatment.

DR. HOWARD FOX agreed with Drs. Wise and MacKee, but said that he would not wait to use salves, but would begin the X-ray treatment at once and would expect the eruption to disappear within a month or six weeks.

DR. SHERWELL said that eczema fissum was his first diagnosis and he was glad to have it confirmed by the general consensus, but the neurotic manifestations seemed peculiar. The condition did not seem to be syphilitic, but he would have a Wassermann test made and also would submit the patient to X-ray treatment if improvement was not manifest soon.

#### PARAPSORIASIS GUTTATA. Presented by DR. MACKEE.

The patient was a youth, 19 years of age. He presented a faint macular eruption on the abdomen, chest and back, with a few lesions on the arms. The macules were about the size of a split pea, pale in color, and a few were slightly scaly. There were no subjective symptoms. The eruption had been present for three years. Occasionally there was a slight improvement, but the individual lesions had never disappeared. The eruptions were first noticed on the abdomen and had gradually progressed to the other affected areas.

#### DISCUSSION.

DR. FORDYCE agreed with the diagnosis, as did several other members.

#### CASE FOR DIAGNOSIS (NODULES ON SCALP). Presented by DR. CLARK.

The patient, a policeman, was about 37 years of age, in excellent general health, married, and the father of four children. His wife had had no miscarriages, and there was no specific history. Two sisters had died of tuberculosis. Eight months ago he noticed a "red blotch" on the forehead near the hair line. A little later, a lump-like cyst was opened, and the patient stated that there was a discharge of pus. Later, other lesions appeared on the frontal region of the scalp. In the past few months four firm, red lumps began to grow in the region of the left temple. They had never been painful or tender, but occasionally they itched slightly or felt a little hot. The lesions were movable with the scalp and were better and worse at times. They were firm or tense without being hard, on an erythematous base. The Wassermann was negative.

#### DISCUSSION.

DRS. HOWARD FOX, WILLIAMS, AND ROBINSON thought that the condition suggested a possible gland carcinoma.

DR. WISE thought the diagnosis of sarcoid most probable from the clinical standpoint, having read descriptions and case reports of similar instances.

DR. MACKEE agreed with Dr. Wise in the diagnosis of sarcoid. He would rule out epithelioma because the lesions involuted too rapidly. He thought that the fluctuation in some of the lesions was due to liquefaction, and said

that a few years ago such cases were regarded as Crocker's nodular lupus erythematosus.

DR. CLARK said he had been very much surprised to see so decided a change in the condition within ten days. Two or three of the lesions had entirely disappeared. The whole red area was then more erythematous than upon presentation, without treatment of any kind.

URTICARIA PIGMENTOSA. Presented by DR. MACKEE FOR FORDYCE.

W. A., age, 22 months. The eruption occupied the trunk and extremities and consisted of discrete macules and very slightly infiltrated papules of a yellowish and yellowish-brown color. The color did not disappear under the dioscope. There was no dermatographism nor pruritus. The individual lesions were about the size of a split pea.

#### DISCUSSION.

DR. FORDYCE said there was no doubt about the diagnosis.

CASE FOR DIAGNOSIS. Presented by DR. CLARK.

The patient was an Italian, 30 years of age, who had been in this country for ten years, coming from Naples. His wife had two miscarriages, two and three years ago, and her physician investigated and found that the patient had a positive Wassermann. He was put upon anti-luetic treatment—had four salvarsans and some mixed treatment. Since then, he had had anti-syphilitic treatment for two months. About seven months ago his hair suddenly grew gray around the hatband line, and the gray hair had since extended toward the top of the head. A few weeks ago he noticed a white patch on the flexor surface of the left wrist, and later some of these patches appeared on the body. Some of these had colored and had become almost normal. The patient never noticed that some of these patches had a faint, brownish ring around them. His general health was good and he had had no subjective symptoms. On the body, arms and legs were numerous circular and oval patches, outlined in the above manner by a ring and beginning to whiten in the centre. There were one or two small, leucodermic patches near the angle of the mouth, on the right side. The patient apparently had no areas of anæsthesia. His ulnar nerve was palpable, but it was questionable whether or not it was enlarged. The rings around the patches were not scaly; they were macular or very fine maculo-papular lesions and gave no sense of induration.

#### DISCUSSION.

DR. HEIMANN said that eight or nine months ago he saw a woman with similar lesions on the arm and hands, and surrounding the deeply pigmented areas were rings of definitely raised, violaceous lesions, suggesting lichen planus. She refused a biopsy and the diagnosis could not be verified, but under the treatment for lichen planus the lesions disappeared. She was given potassium iodide internally and X-rays externally, and in the last seven or eight months the lesions had faded considerably.

DR. FORDYCE said the case presented unusual manifestations in that it was accompanied by an inflammatory area. The lesions suggested leprosy, but the absence of any disturbances of sensation spoke against this view.

DR. HOWARD FOX said it did not seem possible that there could be so many lesions of leprosy without any change in the cutaneous sensory condition. He also thought that a slight enlargement of the ulnar nerve was very difficult to detect.

DR. CLARK agreed with Dr. Howard Fox, and said that he had worked along those lines for several days but could not reach any conclusion. The sudden discoloration of the hair would seem to put the case in the vitiligo group. That was apparently the first indication—the graying of the hair along the line of the hatband, later extending somewhat. The man had dyed his hair since. The speaker said he had not been able to consider it a case of leprosy, and did not know what it was.

PEMPHIGUS OR ERYTHEMA BULLOSUM. Presented by DR. WILLIAMS.

The patient, Mrs. C. C., 40 years old, housewife, Irish by birth, gave a history that two years ago, in June, 1914, while pregnant, she had an attack like the present one, with lesions on the arms and legs and in the mouth, which lasted for two months. The baby was born in December, 1914, and in February, 1915, she had a relapse of the condition which lasted for two months. It was then absent for about a month, and so relapses and recoveries alternated until Oct. 21, 1916, when she had a chill, followed the next day by an eruption in the mouth which spread later to the arms and legs, and had been continuous ever since,—sometimes better and sometimes worse. The patient was very costive. Wassermann negative. She had been under the care of Dr. Trimble at Bellevue, and by careful attention to diet, etc., she had had some relief of the symptoms. At times the eruption came out in bullæ or blisters which broke. It was a question whether the condition was pemphigus or erythema multiforme bullosum; the latter seemed the most likely.

DISCUSSION.

DR. JOHNSTON asked if there was any diminution in the patient's health.

DR. WILLIAMS replied that at one time she had been very much run down, on account of the fact that she could not take food, but when that trouble cleared up and she could take food again, she improved.

DR. ROBINSON considered the case to be pemphigus, as did several others.

ALOPECIA UNIVERSALIS. Presented by DR. SCHWARTZ.

The patient, Paul H., was 7 years of age, and was absolutely bald. He had had measles three years ago, otherwise his history was negative. In December, 1914, a patch of alopecia appeared, and in three months there was complete alopecia of the scalp. His hair then began to grow in again and the scalp was nearly covered. In December, 1915, the hair fell out again, this time including the eyebrows and lashes. About four months ago the lashes started to grow. He has been treated with two applications of phenol and equal parts of 01. gaultheria and ether.

DISCUSSION.

DR. CLARK said that he had under his care a private patient, 10 or 11 years of age, who had a total alopecia for two and a half years. The child had been under observation, off and on, for eighteen months and was decidedly overweight and very dull, being behind his classmates in school. On these grounds he was given a rather extensive and prolonged course of thyroid treatment, and some new hair began to grow, but after a time it disappeared. At that time a Wassermann test was made and he gave a four plus reaction. He then was given salvarsan and mercury. Just what that had to do with the condition the speaker said he did not know, but a new growth of hair had started which had gone far beyond the growth established under the thyroid treat-



ment. What would be the result, could not yet be determined, but certainly it looked as though the hair was going to stay in. Whether it had come to the alopecia stage, or the condition had anything to do with syphilis, or whether the thyroid treatment did any good, was of course impossible to say. It was possible that the syphilitic condition may have had some effect on the pituitary gland and the thyroid gland.

DR. MACKEE said that in alopecia cases one should be careful about attributing the return of hair to treatment. A year or two ago he had had a young lady patient who had an alopecia universalis. He told her that he thought the prognosis was probably bad, but he treated her with the Kromayer lamp, applying the rays to only ~~one~~ side of the head, and the hair grew promptly all over the body. If the treatment had been applied to the various hairy regions, the growth would have been attributed to the lamp.

DR. WISE asked if the child had any other symptoms of syphilis besides the positive Wassermann, and whether the infection was acquired or congenital.

DR. CLARK replied that both father and mother gave positive Wassermanns.

DR. JOHNSTON told of a case of alopecia universalis that got well under internal treatment.

#### SCLERODERMA (?). Presented by DR. HEIMANN.

The patient, Mrs. A. B., from Dr. Whitehouse's clinic at the Post-Graduate Hospital, had been suffering from the condition for five years. The condition began on the arm, and at the time of presentation involved the arms and legs symmetrically. When first seen, three or four months ago, the skin was indurated and had a doughy consistency. A biopsy was made, and there was a certain similarity in the picture to the early stages of scleroderma.

DR. FORDYCE offered the diagnosis of acrodermatitis.

DR. WISE agreed with Dr. Fordyce that it was a case of acrodermatitis chronica atrophicans in its early manifestations.

#### LEUCODERMA PSORIATICUM. Presented by DR. MACKEE FOR DR. FORDYCE.

The patient, Miss R. B., had been shown at the last meeting as a case of leucoderma psoriaticum. There was no change in the lesions, and no decrease in the pigmentation surrounding the depigmented area, and there was a little more assurance of the correctness of the diagnosis.

#### DISCUSSION.

DR. CLARK said that there was a slight fading of the condition, and that it might be due to the chrysarobin or other treatment,—the time was too short to say that it was not a dermatitis following treatment.

DR. KINGSBURY agreed with Dr. Clark that one could not yet be sure that it was not a dermatitis following treatment.

DR. WISE said that the case had been watched for nearly three months and that efforts had been made to clear up the question of whether the condition was due to any salve, but it was finally concluded that it was a true leucoderma following psoriasis.

#### ALOPECIA CICATRISATA. (PSEUDO-PELADE). Presented by DR. MACKEE FOR DR. FORDYCE.

The patient, Mrs. D. K., was 28 years of age. On various portions of the scalp,—frontal, occipital, and vertex,—were areas of partial and complete

alopecia associated with numerous yellowish-brown sebaceous cysts, varying in size from that of a pinhead to that of a lentil. The scalp appeared to be slightly atrophic, smooth and shiny. There was no evidence of follicular inflammation and no visible scar formation. The alopecia was of a patchy, disseminated variety; the duration was one year. No aetiological data could be obtained.

#### DISCUSSION.

DR. HEIMANN and others agreed with the diagnosis.

**ERYTHEMA PERSTANS.** Presented by DR. MACKEE FOR DR. FORDYCE.

The patient, Anna S., was 34 years of age and married, and stated that the eruption had existed for three years, appearing in repeated attacks, the relapses involving the same spots. Occasionally a new lesion developed, but the recurrences were always in the old lesions. During the stages of remission, the lesion did not entirely disappear but would turn brown; when the erythema developed, they were bright red, and then turned brown again. A biopsy showed that the eruption belonged to the erythema group. The patient denied the ingestion of drugs. The dermatosis consisted of numerous smooth, flat, circular and oval plaques, reddish, purple to violaceous in color, with usually a bright red, peripheral zone. Some of them presented a slight depression in the centre, but there was no sign of atrophy. Scaling was absent. Under glass pressure the lesions paled but did not fade entirely.

Three cases of similar nature had appeared at the clinic during the past year or so.

#### DISCUSSION.

DR. FORDYCE said that he had seen several cases of this type of eruption, where the patches appeared as purplish-red infiltrations then disappeared, sometimes leaving pigmentation. An interesting feature of the trouble was the occurrence of the lesions at the sites of the old ones. A few days ago a patient had come to his office with this type of eruption. She had had lesions on her neck and thigh which had recurred in the same place from time to time, during the past year. This woman had a gonorrhœal endometritis and vaginitis; a microscopical examination of the pus showed the presence of the gonococcus. The possible connection of the local infection with the skin eruption had suggested itself to him.

DR. HEIMANN said that cases of this type resembled the cases caused by some of the coal tar remedies, but that this cause was ruled out by the history.

**BAZIN'S DISEASE.** Presented by DR. MACKEE FOR DR. FORDYCE.

The case was presented to illustrate the difficulty of making a differential diagnosis between syphilis and tuberculosis. The patient, L. McC., was a woman, 35 years of age, who presented a number of recurring lesions consisting of sub-cutaneous nodules, clean cut ulcers and scabs scattered on the anterior and posterior aspects of the legs. The nodular lesions were tender, with much reddening of the overlying skin. The ulcerated lesions were sharply defined, oval and circular in shape, closely resembling broken down gummata. The Wassermann test was negative.

#### DISCUSSION.

DR. HEIMANN said that in this case the diagnosis was confirmed microscopically.

DR. SHERWELL said that the case was very typical of the disease in question.

SECONDARY SYPHILIS. Presented by DR. MACKEE FOR DR. FORDYCE.

The patient, B. D., was a boy, 11 years of age, who had had the condition presented, for two months. There was a history of acute articular rheumatism and endocarditis. The Wassermann test was positive and there was general glandular involvement. There was a primary lesion on the penis which had healed over.

LUPUS ERYTHEMATOSUS OF THE LIP. Presented by DR. KINGSBURY.

This patient had been presented before the Society a year or so ago. She then had a sore on the lip about which there was some question as to the diagnosis. Some one had suggested erythematous lupus, and the condition as presented bore out that diagnosis.

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## NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY.

Regular Meeting November and December, 1916, January and February, 1917.

CHARLES M. WILLIAMS, M.D., *Chairman*.

CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient was a man, aged 24 years, married, and born in Italy. He had upon the under surface of the prepuce and on the glans penis, a vesicular eruption resembling herpes, as well as milky white areas on the gums and buccal mucous membrane. There was also one lesion on the left thigh, the size of a silver dime, dusky red and scaly. The duration was six days, and the patient claimed that attacks of this nature came on three or four times yearly. They always occurred in the same location and were of the same character. On the cutaneous surface of the penis, near the muco-cutaneous junction, was a small lesion that seemed like a superficial scar. This, according to the patient's statement, was the result of a former attack. Each attack lasted for about two weeks.

### DISCUSSION.

DR. TRIMBLE said that the case was probably either erythema multiforme or a recurring and rare variety of erythema bullosum.

DR. AITKEN stated that the lesion on the right forearm suggested erythema bullosum.

DR. POLLITZER pointed out that recurrent cases of this type raised the suspicion of drug ingestion, a fact he was unable to determine by cross-questioning, so that he was forced to the conclusion that it was a toxic form of erythema multiforme.

VESICULAR ECZEMA., Recurring since Infancy. Presented by DR. HOWARD FOX.

The patient, E. F., was a girl, 12 years of age, born in the United States. Her mother stated that the patient had suffered from a similar eruption upon the face every winter, since she was six months of age. The eruption would usually begin in October and last without much change until May. From her history, the lesions were always apparently vesicular or crusted and caused

enough itching at times to interfere with sleep. She presented a sharply circumscribed area about the mouth, consisting of pin-head vesicles, and crusts with some fissures at the corners of the mouth. The ring of eruption was not quite complete about the mouth, was an inch and three-quarters at its widest point and extended partly upon the vermilion border. She was well nourished and in apparent good health. The patient, who seemed to be an intelligent girl, stated that she was not in the habit of licking her lips.

#### DISCUSSION.

DR. FOX announced that the patient had been shown because of the long duration of the disease. No suggestion of seborrhœa existed. When he first saw the child, two days before, she had groups of pin-point vesicles. Every winter recurrences appeared which lasted six or eight months. The child did not lick her lips; she had had an X-ray treatment two days before.

DR. WISE said that the patient admitted to him that she licked her lips, but he was not sure whether this habit was not the result rather than the cause of the dermatosis.

DR. POLLITZER doubted whether the condition was seasonal, since October weather was not cold enough to provoke the winter dermatosis. Nor did he believe that the rash vanished entirely in warm weather.

DR. WILLIAMS held that constant irritation of some sort should be ruled out, and that consequently a detailed history was necessary.

DR. FOX emphasized that all of the points raised and criticisms enumerated had been already considered and could be disregarded since the patient and her mother were absolutely certain of their statements, reliable and unwavering when cross questioned.

#### CHANCER OF THE TONSIL. Presented by DR. PAROUNAGIAN.

The patient, Mr. M., was 24 years of age, an Armenian, and a sailor. About three months ago, he had had coitus. There were no genital lesions and the sore throat began about five weeks ago. He had already consulted two physicians before he had been seen by the speaker. They had suspected diphtheria and cultures had been made. One report was positive, the other negative. On October 19th, a roseola and general adenopathies were present, and as the genitals were free from any lesions, the throat was carefully examined. On the left tonsil there was a large lesion covered with a muco-purulent membrane, resembling diphtheria. The right tonsil was entirely free from lesions and the Wassermann reaction was strongly positive.

#### DISCUSSION.

DR. FOX thought that the throat lesion was one of secondary syphilis.

DR. WILLIAMS agreed with this and pointed out the corroborating fact that satellite glands were absent.

DR. PAROUNAGIAN said that he considered the local glands enlarged, and had ruled out the presence of a chancre elsewhere.

#### LICHEN PLANUS WITH ZOSTER-LIKE DISTRIBUTION. Presented by DR. PAROUNAGIAN.

Mr. E., aged 54, was born in Germany and was a machinist by occupation; the duration of his skin affection was about three months. The location of the lesions was in the right hypogastric region, extending upward to the middle of the spine and to the median line, just below the umbilicus. The



lesions were grouped, shining papules, violaceous in color and very itchy. The pigmentation was well marked and typical mucous membrane lesions of lichen were present.

MYXEDEMA (POLY-GLANDULAR SYNDROME). Presented by DR. OULMANN.

The patient was a child, four years old, and had developed fever about six weeks before presentation. After that appeared swelling of the neck. The entire skin was yellow, the eyes intensely swollen so that the right could not be opened. For two weeks previous to presentation, the skin of the face and body had been hardened and cold to the touch.

DISCUSSION.

DR. POLLITZER said that the case presented several unique features. The acuity of the symptoms, the hardness of the skin were unlike the picture of myxœdema in which the consistency of the integument was doughy. Nor did it resemble scleroderma, for the process was too deep.

DR. WISE inquired whether Dr. Oulmann had found any references in the literature to papules in myxœdema, such as the case exhibited.

DR. FOX asserted that the picture did not correspond to his conception of myxœdema. Hardy described three types of scleroderma: the œdematous, morphœic and sclerodactylous. This case represented the first variety.

DR. OULMANN said that pigmentation was mentioned in the literature but no papillary excrescences. He thought that the case resembled Goldenberg's patient with polyglandular syndrome, and he favored the view of myxœdema.

DR. FOX stated that if it was myxœdema it should clear up under thyroid therapy.

DR. OULMANN replied that this substance was being administered and that already within two days there was marked improvement.

CIRCINATE MACULAR ERUPTION. Presented by DRs. MACKEE AND WISE.

The patient, G. M., a man, aged 47 years, came to the Vanderbilt Clinic in April, 1916, with an initial lesion on the left side of the upper lip. The submaxillary glands were markedly enlarged. The dark field examination was positive. There was no eruption on the body at that time. The patient received six salvarsan injections and a course of mercury injections. He then remained away up to the week before presentation (last visit to the clinic being June, 1916), when the annular macular eruption made its appearance on the trunk.

DISCUSSION.

DR. FOX pointed out that the lesions in question were rare, as macular annular lesions were much fewer than papular annular ones, which themselves were not frequent. By Unna such lesions were considered as analogous to neuro-leprides and were called neuro-syphilides. They tended to recur with or without treatment, and in one instance such a recurrence had been noted fifty years after the first infection. They were rebellious to treatment.

EPITHELIOMA OF THE NOSE AND INNER CANTHUS OF THE EYE. Presented by DR. TRIMBLE.

The patient was a young woman, 25 years of age, married. The lesion began 7 years ago as a small red spot which gradually developed into the

condition presented. She was exhibited as of interest on account of her age, the epithelioma beginning when she was 18. The speaker requested the opinion of the members in regard to the treatment of this individual case.

#### DISCUSSION.

DR. POLLITZER said that of the many ways of bringing about a satisfactory cure of this case, radium and X-ray might be mentioned first. The surgeon would probably advise excision and grafting and produce a cure with considerable disfigurement. The speaker thought thorough curetting, followed by the acid nitrate of mercury, was a simple and quick method and one that would prove entirely satisfactory in the end.

DR. WISE said he thought that the location of the lesion was favorable for X-ray treatment, as such treatment would prevent any pulling down of the lid from scarring and contracture.

DR. MACKEE said that on account of the location he thought that X-ray was the method of election. As Dr. Wise had said, there would be no scarring and, therefore, no ectropion. Relapses occurred after the X-ray, but they were no more frequent than after any other form of treatment. The lesion should be treated intensively and not stimulated with the X-ray. In other words, an erythema dose should be administered and this should be repeated, if necessary, in from four to six weeks. The speaker said that it required from one to four treatments to cure these cases. If the patient would permit a superficial curettage, scraping away the nodular elevations in the nodular type, and destroying the infiltrated margin in the ulcerated type, a cure would usually result from one treatment. Curettage was, of course, limited to the basal-cell type of epithelioma. Years ago it was a very common occurrence to see these lesions improve under the mild, oft-repeated exposures, only to cease improving and actually get worse at a later period. This phenomenon was rarely seen today. Also, relapses were far more common with the old than with the modern technique. Furthermore, in the old days, when relapses occurred, they were very apt not to respond to X-ray treatment. With the modern technique the relapse responded just as readily as did the original growth.

DR. TRIMBLE said that in his experience with the fractional dose method of X-ray, he had found that on a lesion that was not ulcerating, the ray did not have an especially good effect. In other words, the X-ray had very little effect on a lesion of this nature, unless it was an open ulcer. He wished to ask the chairman if in his experience that was true of the massive dose method? Would the massive dose act just as well on that case as on an open ulcer?

DR. MACKEE said that with modern intensive treatment it was found that nodular lesions and ulcers with nodular or indurated edges were far more recalcitrant than were the non-indurated ulcers. This of course was easy to understand, the reason being that the indurated tissue filtered out a large proportion of the rays, so that when a skin toleration dose (H 2, B 10) was administered to the surface, probably not more than half of this amount (or even less) reached the deep-seated, actively proliferating cells. This small dose which reached the deeper cells was not only small in amount, but the most active rays (biologically and therapeutically considered) had already been lost. In such instances it was quite possible that the underlying malignant cells might be stimulated even when fairly intensive doses were administered. It was advisable therefore to give a dose sufficiently large to produce a secondary radio-dermatitis, to employ a filtered ray, or better still, curette away most if not all of the growth and produce a cure in one treatment.

**SALIVARY CALCULUS.** Presented by DR. LANE.

The patient was a man, 29 years of age, married. An eruption which appeared when the patient was under two years of age, was diagnosed as syphilis by one physician and another made the statement that it was not syphilitic.

The patient had had an attack of gonorrhœa, followed by epididymitis, in 1906. There was a complete clinical cure in three months. He never had chancre or chancroids, nor any other illness until the trouble for which he was presented appeared. The family history was negative.

For three years he had had attacks at intervals of which the following was typical. He awakened with swelling in the floor of the mouth and under the tongue. This grew worse for a day or two and swallowing was difficult. Excessive salivation then began and in two or three days he was well. The first swelling was under the jaw on the left side, at the site of the swelling which was present when the patient was shown.

Examination at the height of an attack showed a soft swelling below the chin on both sides. The whole region from ramus to ramus and chin to larynx was uniformly enlarged. The mouth could be closed with difficulty. The sublingual glands and glands of Blandin and Nuhn were greatly swollen. The submaxillary glands were swollen but to a lesser degree. The dorsum of the tongue, the pharynx and tonsils were normal. A fluid like the white of an egg was withdrawn from the left sublingual swelling.

The mouth, formerly, was normal between attacks but for the past six months or more, the left submaxillary region had remained swollen.

At the time of presentation there was a soft swelling in the left submaxillary region which, on slight pressure, caused marked prominence in the floor of the anterior part of the mouth. The glands of Blandin and Nuhn were prominent. The sublinguals were swollen and there was hardening of the border of the left submaxillary. He had irregular teeth and pyorrhœa. Two teeth with apical abscess were removed last March.

The complement fixation test for gonorrhœa was negative. The Wassermann reaction was four plus. An X-ray plate, taken Jan. 1, 1917, showed salivary calculus.

#### DISCUSSION.

DR. POLLITZER said that the patient, who at the time of presentation showed a salivary cyst due to obstruction, was exhibited on account of his history of previous attacks of acute swelling of several salivary glands. The suggestion of Mikulicz's disease which had been made, he said, he thought must be rejected when we considered that in Mikulicz's disease we are dealing with a more or less chronic enlargement of the salivary and often the lachrymal glands, in which we found anatomical changes—a bone tumor formation. He also stated that although the man was syphilitic, he could see no possibility of connecting these acute swellings of the salivary glands with his syphilis. He suggested the possibility that there was a metabolic disturbance in this patient which led to the ready formation of salivary calculi and that his previous attacks had been of the same nature as that which the patient presented when shown.

DR. GILMOUR said as far as the glands were concerned there was a slight ulceration under the tongue—enough to account for their enlargement.

DR. LANE said, when he saw the man two or three days previous to his presentation and examined him, the right sublingual salivary duct spurted saliva quite freely. He thought the enlargement was caused by retention of saliva. He also said he would like to ask Dr. Pollitzer if it would be wise to start antisyphilitic treatment. He had not had the patient under treatment or he would have tried it before.

DR. POLLITZER said he would certainly advise antisyphilitic treatment which was indicated by his 4  $\pm$  Wassermann reaction.

#### EPITHELIOMA AND RADIODERMATITIS, FOLLOWED BY PLASTIC OPERATION. Presented by DR. LANE.

The patient was a man, 46 years of age. A basal-celled epithelioma de-



veloped on the right side of his forehead about twelve years ago. About six or eight years ago he received X-ray exposures which resulted in a third-degree radiodermatitis. A silver-dollar-sized area, including the outer table of the skull, sloughed away and the wound never completely healed. Two years ago nodules developed in the atrophic skin outside of the margin of the open wound. These were found, microscopically, to be basal-celled epitheliomata. He also developed a number of coalesced nodules behind the right ear. These were successfully treated by intensive Roentgenization. It was decided to treat the forehead lesion surgically. Dr. L. W. Bacon of New Haven performed two extensive plastic operations. He removed the microscopic evidence of the disease, the old wound and most of the X-ray tissue, replacing the lost tissue with flaps from the scalp. In view of the difficulties of the case—the large amount of devitalized tissue—the result was certainly excellent. There was one dime-sized area near the eyelid that showed X-ray keratosis; this might have to be removed or perhaps it could be controlled with radium.

#### DISCUSSION.

DR. WISE asked if the lesions were recurring epithelioma from the original focus or epithelioma resulting from the X-ray treatment?

DR. MACKEE said he thought the condition was one of recurring epithelioma rather than an X-ray cancer, as the latter was always of the squamous-cell type. The growth in this patient had been recently studied and was found to consist of a basal-cell epithelioma.

DR. POLLITZER asked if this man was considered cured. He said the tissue was certainly suggestive of future trouble.

DR. MACKEE, replying to Dr. Pollitzer, said that he did not think the patient was permanently cured. He would have to be kept under observation and more tissue removed or the X-ray or radium employed if necessary and according to indications.

#### DUHRING'S DISEASE. Presented by DR. LANE.

The patient was a boy, 15 years of age. The eruption was chiefly on the face, hands and forearms. It started when the patient was three years old, shortly after recovery from an attack of diphtheria. At first the arms, legs and face were covered with a vesicular eruption and there was some on the trunk. It had gradually improved as he had grown older though it had never been entirely absent. There were still occasional exacerbations. He had formerly been under the care of Dr. Wise.

#### DISCUSSION.

DR. WISE said he regretted to say he did not remember the case. If the disease was of several years' duration, he did not believe it could be Duhring's disease. What the real diagnosis was he did not know. He could not conceive of a Duhring's disease of several years' duration with no other lesions than those presented, limited to the arms.

DR. POLLITZER said it was difficult to make a diagnosis in a case that had been going on for a great many years in which the condition which the patient presented when shown, might be the terminal stage before a disappearance. He also said he should not think of Duhring's disease at all. In this case there was a considerably thickened skin of the face, showing some scratch lesions. Lesions were found, also, on the extensor surfaces of the forearms and perfectly normal skin on the other side. The lesions were not very many and mostly scratch marks. Prurigo should be considered. The



patient said he got well every summer. Prurigo generally got better in summer and worse in winter. He suggested the diagnosis of prurigo and said there was not a single attribute of Duhring's disease. One expected vesicular lesions and grouped lesions with wide distribution, but there was nothing like that in this case.

DR. HEIMANN expressed himself as impressed by Dr. Pollitzer's summary of the case, but regarded more seriously the probability of Duhring's disease, for he had seen many examples of the papular variety. He agreed that the case might represent the terminal stage of the disease. The eruption was, he thought, too limited to indicate prurigo. The view of the previous speaker, however, that the presence of vesicles excluded prurigo, he regarded as erroneous. The condition of the patient's face, perhaps, favored the diagnosis of prurigo more than any one factor but it did not rule out Duhring's disease. Anatomically the facial condition indicated a productive inflammation with lymphatic dilatation, in short, a local elephantiasis which in time might become even more marked.

DR. ROTHWELL said there was sufficient about the clinical appearance of the case to warrant considering it an atypical Duhring's disease. In the University and Bellevue clinic he said they had had a well marked case of dermatitis herpetiformis. The patient reported to them recently that one week previous to her visit she had become nauseated and was unable to eat during the week, and that during the week her dermatitis had cleared up. Examining her, they found this to be true; her skin was clear of eruption. About ten days previously she had come to the College, and Dr. Trimble demonstrated the case before the class (she was then a well marked case of dermatitis herpetiformis). When she began again to take improper food, the eruption reappeared. She had had the disease twelve years and only once before had it cleared up, at which time she had been put to bed on a milk diet for what was thought to be an attack of appendicitis. When she began to eat again the eruption reappeared.

DR. MACKEE agreed with Dr. Pollitzer.

DR. LANE said he was very glad that this case had brought about so much discussion. The body had had the condition since he was three years old, gradually getting better. When it began it was vesicular in character. When his father took him to Dr. Wise, four or five years ago, Dr. Wise said it was Duhring's disease. Dr. Lane had seen him but once before the night of presentation, and that was two months ago, but he admitted that if he had seen him on that night for the first time, he could not make a diagnosis of Duhring's disease excepting from the history. The condition had improved a good deal in that time. He had been under arsenical treatment. The speaker said he had not noticed any papules on the arms when he saw him before but had considered prurigo as a possible diagnosis. He did not believe that he would be able to make a diagnosis of prurigo at the time the patient was presented. He hoped that Dr. Wise would be able to find his record of the case, as he saw the patient when the eruption was much more marked.

#### EXTENSIVE TUBERCULOSIS CUTIS. Presented by Dr. HOWARD FOX.

The patient, Richard H., was a man, 25 years of age, born in Ireland, a morman by occupation. He came to the United States six years ago. The family history was negative. The patient stated that both of his parents and four brothers and four sisters were living and healthy. He did not recollect having suffered from any children's diseases and claimed that he had always enjoyed good health, until two years ago when he had an attack of pleurisy. He had had occasional night sweats, but never expectorated blood. In the past four months he had lost about twenty pounds. A year ago an operation was performed for an "internal abscess," leaving a linear scar over the region of the

gall bladder. About six monthse later "little abscesses" appeared on the legs, followed two months later by other "abscesses" on the arms. The patient stated that these lesions began as pea-sized lumps increasing in size and later discharging, and covered from time to time with crusts. They were slightly sore at times to the touch. There was no history of syphilis.

Examination showed a well-developed, muscular man, six feet, three inches in height, weighing 185 pounds. His chest was somewhat flat and his cheeks were rather flushed. The eruption consisted of discrete, flattened, nodular lesions on the buttocks, thighs, legs and right arm, the greater number of the lesions being situated on the back of the thighs. They were of dull, bluish-red color, some of them superficially ulcerated, others covered with yellowish-green crusts. The largest patch was two inches and a half in diameter. There was no grouping or configuration whatever characteristic of a nodular or gummatus syphilide. The Wassermann reaction was negative. The urine showed nothing abnormal. An examination of the lungs showed increased bronchovesicular breathing and a few crepitant râles over the right lung, and pleural friction râles over the back of the right bronchus and lower lobe of the right lung. The biopsy had not been reported.

#### DISCUSSION.

DR. LAPOWSKI thought tuberculosis of the skin would hardly present such lesions. Syphilis would have to be excluded. Even a negative Wassermann would not exclude syphilis. The speaker considered the case to be one of rupial syphilide.

DR. WISE said that he would not care to make a diagnosis without investigation histologically.

DR. MACKEE regarded the condition as representing multiple scrofulous gummata.

#### PITYRIASIS RUBRA PILARIS. Presented by Dr. LAPOWSKI.

The patient, Miss K. R., was first seen in the Good Samaritan Dispensary on July 10, 1914. She was presented by Dr. Berger for Dr. Trimble, at the 39th Annal Meeting of the American Dermatological Association, on May 13, 1915 (see THE JOURNAL, xxxiv, 1916, p. 401), as pityriasis rubra pilaris.

She was presented by the speaker to show the improvement under bichloride injections and local treatment by sulphur ointment.

The lesions occupied the following parts: palms, upper and lower extremities, knees, buttocks, trunk, ears, neck, scalp and breasts.

There were hyperkeratotic, psoriasis-like patches on the buttocks, neck, axillæ and breasts, with here and there follicular conical papules. On the other parts there were disseminated conical papules only.

#### DISCUSSION.

DR. HOWARD FOX thought that the eruption in the girl was very characteristic on account of the keratosis of the palms. The horny plugs on the arms were very small and if it were not for association of the lesions of the hands, he would have thought the case might have been a circumscribed keratosis palmaris.

#### ERYTHEMA MULTIFORME PERSTANS. Presented by Drs. MACKEE AND WISE.

A. S., female, married, aged 34 years, from Dr. Fordyce's clinic, gave a history of repeated attacks of an eruption which consisted of dime to palm-sized,

smooth, round and oval, violaceous and reddish-blue patches, appearing on the trunk, buttocks and extremities. These patches did not itch, and some of them would persist without showing signs of involution, for weeks and months at a time. Then they would gradually fade for a time, only to reappear, chiefly in exactly the same sites as before. The duration of the trouble was three years. In some of the lesions which showed evidences of retrogression, there was a peculiar mottling and reticulation of the surface, presenting yellowish and almost white areas, in the midst of the violaceous plaque. The general appearance was that of an erythema multiforme in the stage of resolution, but instead of fading within a week or so, these plaques would persist without much change, for long periods of time. The patient was suffering from obstinate constipation. Treatment had been of little avail.

SARCOID (DARIER-ROUSSY). Presented by DR. LAPOWSKI.

The patient, H. H., was a woman, 43 years of age. She had been married 22 years but had never been pregnant. There was a scar over her left scapula which followed the removal of a tumor when she was 10 years of age. The general health of the patient was good. When presented before the Section there was an eruption consisting of walnut-sized, hard, reddish nodules. The overlying skin was firmly adherent. The lesions were discrete and scattered over the right wrist and the thighs. The distribution was not symmetrical and the duration was 6 months. The lesions had never ulcerated and there were no subjective symptoms. The fingers presented a pernio-like condition and a chronic paronychia.

DISCUSSION.

DR. WISE thought that the diagnosis of sarcoïd was simply guess work. A diagnosis could not be made without a biopsy, in this case. Other lesions must be considered, such, for instance, as cutaneous myoma and keloid.

DR. HOWARD FOX agreed with Dr. Wise.

DR. MACKEE said that the lesions did not quite correspond to his recollection of Darier and Roussy's description. He had never seen a case that he considered as falling under their description, but as he understood it, the deep sarcoïd of Darier and Roussy was almost indistinguishable from Bazin's disease, both clinically and anatomically.

DR. LAPOWSKI asked if the result of a tuberculin test would be accepted. The patient refused a biopsy. The diagnosis of Darier and Roussy's disease might be guess work in this case but the presence of the nodule on the patient's leg, and the other flattened nodules could not be considered keloids even if the linear lesions on the wrist suggested it. The speaker said he would try arsenic and make a tuberculin test and report at the next meeting.

URTICARIA XANTHELASMOIDEA. Presented by DR. LAPOWSKI.

The patient, M. L., was presented for the first time on Nov. 10, 1908, as xanthoma planum (see THE JOURNAL, xxvii, 1909, p. 173) and again on Dec. 5, 1911 (see THE JOURNAL, xxxi, 1913, p. 172). On both occasions Dr. Pollitzer and some other members of the Section disagreed with the diagnosis of xanthoma planum but were in favor of urticaria pigmentosa xanthelasmaïdeïa, under which diagnosis the case was presented for the third time.

All the previous lesions had disappeared, leaving in some places only slightly yellowish stains. During the six years of observation no new lesions had appeared. Occasionally there was slight dermatographism present.



## DISCUSSION.

DR. WISE emphasized Dr. Lapowski's remarks and said that many cases of urticaria pigmentosa in infants were indistinguishable from xanthoma, clinically.

## PAPULAR SYPHILIDE. Presented by DR. LAPOWSKI.

The patient, M. F., was a married woman, 40 years of age. There was no history of syphilis and there had been no miscarriages. The duration of the condition was one year and the areas affected were the forehead, cheeks, upper lip and chin. The lesions consisted of large papules arranged in annular form, of a pale color and slightly scaly.

## DISCUSSION.

DR. HOWARD FOX made a diagnosis of seborrhœic eczema but requested Dr. Lapowski to administer anti-syphilitic treatment as a test.

DR. MACKEE said that it was not an easy diagnosis to make as the mottled pigmentation of the chin markedly resembled a syphilide but the picture, as a whole, suggested seborrhœic dermatitis.

## ERYTHEMA INDURATUM. Presented by DR. ROTHWELL FOR DR. BRAND.

The patient, R. C., was 16 years of age. There was a history of measles at 5 years of age, but no other ailments. The condition for which the patient was presented began in the latter part of November, 1916, as "sores" on the lower part of both legs, which were slightly painful to the touch but not accompanied by any joint trouble. About a month previous to presentation, both ankles became swollen and painful and remained so, about two weeks. The condition, when the patient was presented, consisted of several pigmented lesions on both legs, chiefly on the lateral aspects. The general condition of the patient was fair. The chest was negative as also were the Moro and Wassermann tests.

## PAPULAR SYPHILIS. Presented by DR. SPIEGEL FOR DR. POLLITZER.

The patient presented an extensive, small papular syphilide of three months' duration. There were large adenopathies, notably of the submaxillary region of the left side. There was no history of initial lesion but the patient had been under the care of a dentist for a period which might correspond with the time of infection.

## LEPROSY. NODULAR AND ANÆSTHETIC. Presented by DRs. MACKEE AND WISE.

S. R., negro, male, aged 24 years, from Dr. Fordyce's clinic, was a native of Dutch Guiana. He had lived in the United States since four years and the duration of his diseases was about two years. On examination, he presented thickening of the lobes of the ears, a large, dark brown, raised œdematous plaque which involved the entire right side of the face and part of the forehead, thickening of the eyebrows, papular and large nodular lesions of the upper and lower extremities and many pigmented macules and plaques, scattered over the trunk and extremities. The ulnar nerves were markedly thickened. Areas of anæsthesia were easily evinced. There was a generalized adenopathy. The bacillus of leprosy was demonstrated in a piece of excised tissue. He was receiving X-ray treatment and intramuscular injections of chaulmoogra oil.



## VITILIGO AND CANITES. Presented by Drs. MacKEE and HEIMANN.

W. S., male, negro, aged 21 years, from Dr. Fordyce's clinic, presented a vitiligo affecting the upper and lower eyelids and a canites of the eyelashes; the complete absence of pigment in these regions imparted a peculiar expression to the negro's features, not unlike that seen in certain monkeys. The rest of the skin presented no evidence of vitiligo.

## LUPUS VULGARIS AND XANTHELASMA. Presented by Dr. LAPOWSKI.

The patient, I. M., was a man. He was presented to show the action of calomel injections upon lupus lesions. There were serpiginous patches of hypertrophic lupus vulgaris on the neck and elbows. The patient also exhibited lesions of xanthelasma on the eyelids. Under the influence of calomel injections the lupus lesions had diminished markedly, but upon reaching the stage shown when the patient was presented, the lesions remained stationary and had not been influenced either by calomel, intravenous injections of neosalvarsan or potassium iodide.

## LUPUS VULGARIS, TUBERCULOSIS CUTIS AND LUES. Presented by Dr. LAPOWSKI.

The patient, K. J., was a man with tuberculosis of the lungs and a positive Wassermann reaction. There were lesions of lupus vulgaris of 15 years' duration on the right forearm and wrist. He had received antisyphilitic treatment without effect. He was presented to show the action of three calomel injections and three intravenous neosalvarsan injections upon the lupus lesions. While the general condition had improved, the lupus patches had remained uninfluenced.

## DISCUSSION.

DR. PAROUNAGIAN said that he would not exclude syphilis because the man was tuberculous. Furthermore, tuberculosis of the skin of the palm was unusual.

DR. ROSEN asked Dr. Lapowski if he expected to make the lesion disappear by the use of calomel or only to improve it. He also asked Dr. Lapowski if the patient showed a positive Wassermann reaction, would he necessarily consider the lesion to be luetic. The speaker said that he saw a case at Mt. Sinai Hospital, where the diagnosis rested between lupus vulgaris and syphilis. He thought the case was one of lupus vulgaris. The patient had pulmonary tuberculosis with positive tubercle bacilli findings but also had a positive Wassermann reaction. Injections of salvarsan and mercury were administered and the lesion finally disappeared.

DR. WISE said that the disease in the case of the man with the lesion on the neck was in his opinion lupus vulgaris, regardless of the Wassermann findings.

DR. MacKEE called attention to the fact that the so-called therapeutic test for syphilis was not always reliable because sometimes syphilitic lesions would appear while the patient was under treatment with salvarsan and intramuscular injections of mercury.

DR. LAPOWSKI said that a biopsy with positive tubercle bacilli or spirochæta findings would only decide the question of the character of the wrist lesion. The histological picture without bacilli or spirochæta, in many instances was quite useless. From the clinical aspect of the lesions—soft reddish tubercles, indolent, remaining unchanged after two calomel injections, potassium iodide,unctions, and two intravenous injections of neosalvarsan—the lesions could be regarded as not syphilitic. The speaker said that in his experience calomel

injections always improved a syphilitic lesion. In this instance not any improvement whatsoever took place. The speaker said that it was difficult to differentiate in these cases in one or two observations, but when the case was watched for several months, differentiation was not so difficult.

LUPUS ERYTHEMATOSUS AND TUBERCULIDE. Presented by Drs. MacKEE AND SCHEER.

J. S., female, married, aged 31 years, was from Dr. Fordyce's clinic. On the left side of the nose, above the ala, she presented a dime-sized patch of lupus erythematosus, which first appeared about three years ago. On the extensor surfaces of both forearms, there were numerous papules and pea-sized, depressed scars, sharply defined and whiter than the surrounding skin, the remains of papulo-necrotic tuberculides.

SYPHILIS CONGENITA. Presented by Drs. MacKEE AND ROSEN.

M. S., female, aged 8 years, from Dr. Fordyce's clinic, presented a series of stellate scars, radiating from the corners of the mouth, with Hutchinson's symptom depicted in the right upper central incisor tooth. The child had snuffles, eruptions and convulsions in infancy. The Wassermann test was positive. When the parents brought the patient to the clinic, they were unaware of the presence of syphilis in the family.

PAPULAR SYPHILIDE OF THE FACE. Presented by Dr. LAPOWSKI.

The patient, C. I., was a married woman. All her children were living. The Wassermann reaction was negative and the patient had had no anti-leptic treatment. The whole face was covered with flat, pinhead-sized papules which showed a tendency to group, forming patches, some of which were annular in outline. The forehead, but particularly the chin, was dark-brown in color and mottled. On the thighs and knees there were lichenoid papular rings which were unpigmented.

DISCUSSION.

Dr. WISE called attention to the fact that this patient had a negative Wassermann reaction. While this prejudiced him against a diagnosis of syphilis, it would be necessary to have one or more tests made. The speaker was not willing to rule out the possibility of lupus erythematosus in this case.

Dr. MacKEE said that the papular eruption on the face impressed him as being due to syphilis.

Dr. LAPOWSKI said that one should be able to make a definite clinical diagnosis. For one to say that an affection might be this or that disease was very unsatisfactory. This case the speaker considered to be syphilis in spite of the negative Wassermann reaction.

LUPUS ERYTHEMATOSUS. Presented by Dr. LAPOWSKI.

The patient, M. G., was a married woman, 32 years of age. She had had two healthy children and one miscarriage. The eruption began six years ago on the ears, cheeks, nose and eyebrows. After a few months this eruption disappeared only to recur in the same location, five years ago. During the five years the patient had been under observation, the lesions had disappeared and relapsed on several occasions. With each new outbreak, new parts would be involved until finally, when the patient was presented, the arms, forearms,

dorsal aspects of the hands, and anterior surfaces of the thighs were covered with circular, silver dollar-sized, red, sharply defined, firm patches without any scaling. On the face similar lesions ranged in size from a penny to a silver dollar. When the lesions disappeared there remained no sign of their former existence. There were a few smooth, red, slightly infiltrated lesions on the ears and silver dime-sized areas had developed recently on the upper back. In addition, two deep-seated nodules with overlying reddened skin had appeared on the thighs. The Wassermann reaction was negative. Arsenic, mercury and quinine had been given without benefit.

#### DISCUSSION.

DR. WISE thought that in all probability the case was one of sarcoid but he also considered the possibility of the nodular type of lupus erythematosus as described by Crocker.

DR. MACKEE thought that the lesions might be sarcoid. The deep infiltration, the absence of hyperkeratosis, dilated follicles, follicular plugs and teleangiectasia, while not necessarily ruling out lupus erythematosus, favored sarcoid. Dr. Lapowski spoke of the absence of atrophy. The speaker said that atrophy might or might not occur in either disease. Dr. Lapowski said that there had been several lesions on the left arm which had disappeared without leaving a trace. The speaker called attention to three scars on the left arm which, however, might have been the result of former vaccinations.

DR. LAPOWSKI said he would be willing to consider the possibility of sarcoid if it were not for the fact that twelve or fourteen relapses had occurred on the body within the period of three years. Red spots would appear now and then on her body which would disappear under Lassar's paste or even when left without any treatment. Sarcoid and lupus would not act this way. It was impossible to consider all the lesions in this case as belonging to lupus erythematosus unless we considered it as lupus erythematosus of the erythema centrifigum type.

#### PITYRIASIS RUBRA PILARIS. Presented by DR. LAPOWSKI.

The patient, D. J., was 6 years of age. The eruption started a year ago on the knees and spread to the following locations: On the scalp there were pea-sized patches composed of conical follicular papules and covered with thin, seborrhœic scales. There were also lesions on the face and ears. On the palms there were keratotic linear rhagades. The extensor surfaces of the last phalanges of all the fingers of both hands, and the extensor surfaces of the upper and lower extremities were involved; also the buttocks.

The lesions were slightly red, scaly, disseminated, conical papules, or gathered in patches where the papules were more flat, closely packed, polygonal and covered with glistening, adherent scales. There was a very slight pruritus.

#### LEUKONYCHIA IN THREE GENERATIONS. Presented by Drs. HOWARD, FOX AND PISKO.

Two members of a negro family were presented, four of whom had suffered from a complete leukonychia of all the finger-nails. One of the patients, George G., 11 years of age, was a full-blooded colored boy. In his case the white nails made a marked contrast with his dark skin. His mother had a slight admixture of white blood and did not show as marked a contrast, though all of her nails were as white as those of her son. The condition had been present as a congenital anomaly in three generations, including father, son, daughter and grandson.



## EPITHELIOMA OF THE LOWER LIP IN A WOMAN. Presented by Dr. WISE.

H. F., aged 49 years, single, was referred to the exhibitor by Dr. Mehler. She presented the rather unusual lesion, in a female, of a large epithelioma which involved the greater portion of the lower lip and which first made its appearance about five years ago, in the form of a small, hard papule. Palpable adenitis was not discoverable.

## DERMATITIS HERPETIFORMIS (?). Presented by Drs. MacKee and Wise.

S. A., female, single, aged 20 years, from Dr. Fordyce's clinic, stated that her eruption was of four years' duration. She exhibited a large number of pin-head to dime-sized, round and oval, pale and bright red lesions on the forearms, resembling recently ruptured vesicles and bullæ. One the face, the remains of recent vesicular lesions were evident. She stated that there never had been any pruritus. Actual vesicles and bullæ were not to be seen at the time of presentation, but the patient averred that they had occurred, appearing mostly in July. The diagnosis lay between Duhring's disease and hydroa vacciniforme. The patient was to be under further observation. The ears and the backs of the hands were not involved, a circumstance throwing into doubt the diagnosis of hydroa vacciniforme.

## SYPHILIS WITH UNUSUAL PIGMENTATION. Presented by Drs. MacKee and Rosen.

B. D., male, aged 15 years, from Dr. Fordyce's clinic, gave a history of articular rheumatism and a disseminated eruption of macules and papules, which appeared two months ago. On examination, the boy exhibited scattered brown and yellowish macules on the trunk and extremities and dime-sized, circinate and papular lesions on the neck. In addition, the neck and arms exhibited numerous dark brown, round and oval, smooth pigmentations, which were peculiar on account of the depth of the pigment in them and the fact that they were limited almost exclusively to the neck and arms. A chancre could not be found and the mode of infection was not discovered.

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MANHATTAN DERMATOLOGICAL SOCIETY.

Regular Meeting, Nov. 10, 1916.

FRED WISE, M.D., *Chairman.*

## CASE FOR DIAGNOSIS. Presented by Dr. Wallhauser.

The patient was a female, aged 52 years, presenting a sloughing ulceration of the right ear. The condition began about six months previously on the upper border of the helix; it had appeared as a single lesion, which enlarged as new foci gradually developed, until the entire auricle had become involved.

The lesion consisted of inflammatory, nodular masses of pale pinkish color, slightly raised above the surface and extending down into the corium. The sloughing, which slowly developed from the centre of each nodular mass, had advanced from above downward, until the entire auricle had disappeared, leaving only the lower part of the lobule. Microscopical examination of a



section removed from a nodular mass, showed it to be composed of a round cell infiltration, corresponding morphologically to the lymphoblast. The cells were proliferating in certain areas as shown by numerous mitotic figures. From these findings it was considered a type of tumor growth, belonging to the lymphocytic series of mesenchymal origin.

#### DISCUSSION.

DR. WEISS said he could not decide on the diagnosis, but he had seen the lesions had undergone quick destruction, breaking down and that the infiltration surrounding it was very hard. This rather tended to corroborate the diagnosis made.

DR. GOTTHEIL said he thought that sarcoma would be very rare in such an old woman. He would hesitate to accept a diagnosis, but rather thought it to be tuberculous.

DR. MACKEE agreed with the diagnosis of sarcoma. He suggested the intensive use of the X-ray, because such treatment was more likely to be efficacious in sarcoma than in epithelioma.

DR. GEYSER said the X-ray might not be permanent, but good for two or three years, and he agreed with Dr. MacKee.

DR. SATENSTEIN said that the pathologist's report was descriptive of lympho-granuloma.

#### EPITHELIOMA OF THE LOWER LIP. Presented by DR. WEISS.

The patient, a male adult, had been seen for the first time on the previous Tuesday. He had been treated with some irritant and the growth gradually established itself since last August and became ulcerating and painful. There was no adenopathy present. The duration had been one year. The case was presented as a prickle-cell epithelioma of the lower lip and was brought before the Society for suggestions as to treatment.

#### DISCUSSION.

DR. GOTTHEIL thought that operative treatment should be instituted.

DR. MACKEE was opposed to the use of refrigeration in epitheliomata. He would advise, in this case, a radical surgical operation followed by prophylactic X-ray and radium cross-fire treatment. The ray should be applied intensively to the lip, the neck and the floor of the mouth. It would be well to give from four to six cross-fire treatments at monthly intervals.

DR. MOUNT said he would go one step further than Dr. MacKee, irrespective of the fact whether the glands could be felt or not, and thought that the whole chain of lymphatics should be cleaned out. \*Statistics bore out this statement.

DR. WEISS said he would try to persuade the patient to accept the treatment suggested by Dr. MacKee.

#### LUPUS ERYTHEMATOSUS AND TUBERCULIDE. Presented by DR. SATENSTEIN.

The patient, Miss G., a female adult, was presented to show the co-existence of lupus erythematosus of the face and tuberculide of the forearms. The case was being treated with the carbon dioxide snow on the face.

## DISCUSSION.

DR. WEISS thought the two diagnoses might well go together, although the scars looked like broken down tuberculides, yet somehow they looked also like disseminate lupus erythematosus. If taken into consideration that lupus erythematosus might be of tuberculous origin, inasmuch as the toxine of the tubercle bacillus seemed to cause it, and he had observed febrile reactions after the injection of tuberculin in lupus erythematosus, it would not be out of the way to consider one condition consecutive to the other, namely lupus erythematosus of the face and tuberculide of the arms.

DR. GOTTHEIL thought the case was one of lupus erythematosus.

DR. PISKO said he thought the case lupus erythematosus disseminatus.

DR. MOUNT said that the combination of lupus erythematosus and tuberculide was by no means uncommon and there had been some positive animal inoculations from microscopical tissue of lupus erythematosus. Several guinea pig inoculations had been made several years previously by Bloch and Fuchs.

DR. GILMOUR said he thought these conditions all the same process.

DR. WISE said the case had been under observation at the Vanderbilt Clinic for four weeks and the lesions on the forearms, which were papular, did not become necrotic in the real sense of the word, but presented depressions and subsequent small crusts in their centres.

## ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. ROSEN.

The patient, a female, 62 years of age, from Dr. Fordyce's clinic, presented lesions of acrodermatitis chronica atrophicans of the lower extremities, showing the typical anetoderma and sclerodermatous hardness. The peculiar thing was that on the extensor surface of the left hand only, she showed an area, atrophic and sharply circumscribed, of purplish color. The duration had been about twelve years.

## DISCUSSION.

DR. GOTTHEIL said the case was of interest to him because he had been asked to see a number of so-called cases of pellagra during the past year and found three out of four were typical cases of acrodermatitis. There was no doubt that some of these cases were called pellagra at the same time, as one case in his service at the City Hospital, which apparently was a real case of pellagra. He would like to ask the gentlemen present how many cases of undoubted pellagra they had seen. The lesions in these patients resembled nothing else so much as a mild case of sarcoma pigmentosum of Kaposi. They were then disappearing.

DR. WISE said one case of pellagrous dermatosis of the backs of the hands came under his care at the Mount Sinai Hospital; the patient had had a gastro-enterostomy. The pellagra disappeared, together with the skin symptoms, under a dietetic and hygienic régime.

DR. ROSEN said, in speaking of the cases of Dr. Gottheil's, just mentioned, the lesion on the back of the hand reminded him of a case of pellagra at the Mount Sinai Hospital, which presented a similar appearance, except more modified. The purplish condition on the extensor surface extended down to about the middle of the fingers and was much deeper than this.

## VITILIGOID ERUPTION. Presented by DRS. HOWARD FOX AND PISKO.

The patient, R. M., was a negro, 23 years of age, born in the United States, a hall boy by occupation. He gave no history of syphilis, but admitted having had a urethral discharge, three years ago. The eruption first appeared

four months ago on the left malar prominence and later on the cheeks, forehead, chest and back. There were no subjective symptoms. The eruption consisted of about two dozen nail-sized, discrete areas of partial pigmentation. There was no scaling, infiltration or evidence of itching. The patches were not sharply bordered and did not make the sharp contrast usually seen in vitiligo in the negro. There was a slight angina, but no scar upon the penis, no adenopathy or other signs suggesting syphilis. The report of the Wasserman test had not been received.

#### DISCUSSION.

DR. WEISS thought the case one of vitiligo.

DR. GOTTHEIL said he had never seen any lesion of leukoderma syphilitica except on the neck.

DR. WALLHAUSER said he should be inclined to the diagnosis of vitiligo on account of the irregularity of the lesions.

DR. KINGSBURY said he thought this case one of vitiligo, regardless of the Wassermann reaction.

DR. MACKEE would not dispute the diagnosis as the case might represent an early stage of vitiligo. In vitiligo, however, there was not a loss of pigment; the pigment seemed to leave a given area and collect in the immediate neighborhood. Therefore the leukodermic spots were whiter than the normal skin, while the immediately adjacent area was darker than the normal skin. This phenomenon was not apparent in the case presented by Drs. Fox and Pisko. The lesions themselves resembled the leukodermic spots occasionally following the involution of luetic macules. The distribution of the eruption and the fact that the lesions were very discrete, would, however, speak against a vitiligoid syphilide.

DR. SAJENSTEIN said he would suggest another diagnosis instead of vitiligo syphilitica, a syphilitic anæmia, i. e., an anæmia in contrast to the roseola, a neuro-syphilide, which, as was well known, was very recalcitrant to anti-luetic therapy. The speaker said that the changes in these conditions were in and about the vessels.

DR. PISKO said he had nothing to add except that he should be very much pleased to show the case one month later. So far all the cases of vitiligo he had seen, and a number of which were in the colored, showed sharply defined lesions, even at the very beginning. In negroes he saw the depigmentation right from the start so distinctly marked, and it was often so positive as to cast no doubt upon the diagnosis.

**PAPULO-NECROTIC TUBERCULIDE.** Presented by Drs. MACKEE AND WISE.

The patient was a female, single, 23 years of age, from Dr. Fordyce's clinic. She was born in Russia. The duration of the eruption was two years. There was an eruption on the external surfaces of the arms and forearms consisting of a large number of deep-seated, millet seed to split-pea-sized nodules, some of which exhibited ulcerated centres. The individual lesions required about two months to evolute and involute. Many of them, after healing, left pitted lesions during the period of two years. The histological picture was that of papulo-necrotic tuberculide.

**PAPULO-NECROTIC TUBERCULIDE (?)**. Presented by Drs. MACKEE AND WISE.

The patient was a woman, 17 years of age, from Dr. Fordyce's clinic. The duration of the eruption, which was situated on the arms and legs, was two

months. There were flesh-colored papules on the shoulders that resembled urticarial wheals, but they were persistent and non-pruritic. On the arms there were numerous follicular papules, conical, obtuse and rounded, some of which exhibited a central crust or scale. On the forearms and hands were found flat-topped, angular papules, some of which presented a suggestion of umbilication. These lesions suggested those of lichen planus. A piece of tissue was removed from one of the shoulder papules, but it showed an almost normal histological picture. The case presented for diagnosis with a tentative diagnosis of tuberculide.

#### DISCUSSION.

DR. WEISS said this case looked like one of folliculitis. There was scaling, but very little inflammatory action around the follicle.

DR. KINGSBURY thought this case one of folliculitis and that if it were under observation for a while, they would find that it was not a papulo-necrotic tuberculide. The speaker said the case was not an ordinary case of folliculitis, but that it required study and observation.

DR. WISE said the patient presented lesions which were indistinguishable from lichen planus, except in their color. These were situated chiefly on the backs of the hands.

#### PAPULO-NECROTIC TUBERCULIDE. Presented by DR. WEISS.

The patient was a male adult, the son of a man previously presented with epithelioma of the lip, that evening. The speaker drew attention to the fact that the lesions of papulo-necrotic tuberculide had been of five years' duration.

#### CASE PREVIOUSLY PRESENTED FOR DIAGNOSIS. LUPUS ERYTHEMATOSUS OR CHRONIC ECZEMA? DIAGNOSIS OF CHRONIC ECZEMA AS RESULT OF X-RAY THERAPY. Presented by DR. WEISS.

The patient, a female adult, had been presented before the Society a month previously. The speaker had been asked to again show the case for progress in therapeutics. He introduced it as a possible lupus erythematosus of the backs of the hands, with discrete, denuded spaces with scaling in the periphery and hyperæmia in the centre. The patient had had it, on and off, for five years with malaise. The diagnosis had been partly confirmed and partly not. Dr. Howard Fox had suggested a therapeutic diagnosis in reference to the use of the X-ray in this case, stating that if it were lupus erythematosus it would not get better and if it were eczematous it would improve under X-ray treatments. Dr. Fox had given her four X-ray treatments and the result on the eruption could be seen, for all the lesions had disappeared. The speaker was glad that the diagnosis of chronic eczema had been therapeutically corroborated. The first two treatments had been one-fourth of a Holzknecht unit and the two last, one-half Holzknecht units.

#### DISCUSSION.

DR. HOWARD FOX said he had given the patient, through the courtesy of Dr. Weiss, four X-ray treatments at weekly intervals, the first two being one-quarter and the last two one-half Holzknecht units. He felt that this proved that the X-ray might be considered a therapeutic test to differentiate lupus erythematosus and squamous eczema, as he had suggested at the last meeting.



DR. MACKEE said that in his opinion the X-ray treatment, as administered by Dr. Fox would cure vesiculo-squamous or squamous eczema of the hands but would not be of any benefit in lupus erythematosus. In fact the X-ray was not very efficacious in lupus erythematosus, no matter what technique was employed. Regarding Dr. Gottheil's statement, the speaker said that no one would be foolish enough to claim that the X-ray would cure an eczema. It only caused involution of a given lesion. The disease might or might not return. If it did, there was no reason why the X-ray should not be employed in each relapse.

DR. GEYSER agreed with Dr. MacKee that these lesions recurred, but the fact that they did recur had nothing to do with the therapeutic agent, for they would have recurred again under some other condition, and the speaker had had cases which recurred two, three and four times.

#### BROMODERMA WITH VESICULAR LESIONS. Presented by Drs. MacKee and Wise.

The patient was a female, married, 35 years of age, from Dr. Fordyce's clinic. The duration of the eruption was three weeks. She had taken strontium bromide for about one month. On the anterior and lateral surfaces of the legs, below the knees, were numerous dime-sized, somewhat painful, vegetating lesions. There were also numerous dark-red, split-pea-sized, firm papules and a few follicular pustules. The peculiar feature of the case was the presence of three vesicles containing clear serum. They varied in size from a split pea to a half dime and were situated on the shins. The speaker said he had never before seen a vesicular or bullous eruption caused by bromide.

#### PAPULO-NECROTIC TUBERCULIDE; DACTYLITIS. Presented by Drs. MacKee and Wise.

The patient, B. A., was a colored male, twenty-eight years of age, from Dr. Fordyce's clinic. The duration of the eruption was three years. There were typical papulo-necrotic lesions on the arms. There were nodular lesions on the ears. On the index finger of the left hand there was a large, slightly painful, fusiform swelling, which seemed to be over the articulation between the first and second phalanges. The location suggested a tuberculous dactylitis, but in order to clearly differentiate between tuberculosis and syphilis it would be necessary to make a radiographic study. It was certainly unusual to encounter a tuberculosis dactylitis in an adult. The Wassermann reaction was positive and the patient was being treated for syphilis.

#### DISCUSSION.

DR. GOTTHEIL said that syphilitic dactylitis, as he understood it, was a hereditary lesion and that the shafts of the bone were affected. In this case the lesion was entirely in the head of the phalangeal bones, which spoke of tuberculous rather than of syphilitic dactylitis. He agreed with the cutaneous diagnosis but did not think the other was syphilis.

DR. SATENSTEIN suggested the possibility of gonorrhœal arthritis. This would stay unchanged for years, whereas a tuberculous process would show some signs of breaking down within a year or two. An X-ray examination would be of great value in this case.

#### ERRATUM

The accompanying illustrations should have accompanied the article on Sclerodactylia with Calcareous Concretions, by George Manghill Olson, M.D., of Minneapolis. The article was published in the February issue of the present volume (p. 96).

Figure 1 shows the calcareous deposits in the fingers of the living subject. Figure 2 depicts the concretions after their removal.



Figure 1.

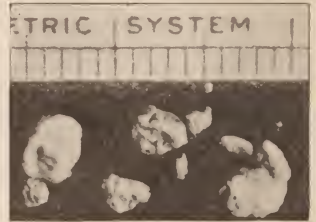


Figure 2.

# THE JOURNAL OF CUTANEOUS DISEASES

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## Address

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### AMERICAN DERMATOLOGICAL ASSOCIATION

TWENTY-FOURTH ANNUAL MEETING, HELD AT CINCINNATI, OHIO,  
MAY 24-26, 1917

#### PRESIDENTIAL ADDRESS

A. RAVOGLI, M.D.

CINCINNATI

The honor of opening this meeting has devolved on me, and I assure you that I feel greatly pleased and more than proud to open the first meeting of the Association in Cincinnati. It is a most pleasant duty to greet you and the Association in my home city. I will not deviate from the custom observed by our Association to give a short address concerning the meetings, the works and the progress in the field of dermatology, the subject of our studies.

In our present advanced state of culture, with our knowledge of histology, pathology, chemistry, bacteriology and serology, and with many years of clinical experience, it will be of some interest to look back and see what the American Dermatological Association has accomplished in the period of forty-one years.

In July, 1876, the American Dermatological Association was conceived and on September 6 was organized at the University of Pennsylvania, at Philadelphia, with Drs. Bulkley and Fox of New York, secretaries pro tem., and Wigglesworth of Boston, chairman pro tem. At the first meeting, fourteen members were enrolled, the constitution and by-laws were proposed and adopted and Dr. James C. White was elected president. The membership reached 29; the meeting was adjourned to hold its first annual session at Niagara Falls, on the first Tuesday of September, 1877. The president, Dr. White, opened the meeting by an address entitled, "A Review of the Progress of Dermatology in America for the past Twenty-Five Years, and the Gradual Recognition of this Branch in the Colleges of the Country."

At the third annual meeting, held in New York, Dr. Duhring, the chairman, read an address on "The Rise of American Dermatology." The interesting feature of this meeting was that on the afternoon of the last day the Association met at the New York Hospital for a clinical inspection of cases.

It is a great satisfaction to look back on the period of forty years and see the difficulties which the Association had to overcome and what it has overcome. As Dr. White said at the second annual meeting in Saratoga Springs, the principal faults in American dermatology were the lack of a uniform classification and nomenclature, and the lack of statistics. Two committees were appointed to work on these lines and the results of their work, incomplete as they were, laid the foundation of the Association and insured its perpetuation.

It was at that meeting that a classification and nomenclature were proposed and adopted. The classification was in general based on that of Hebra, but it aimed to reduce the number of groups and to strike out a number of subdivisions, placing others in a more appropriate category. The system was more simple than Hebra's and yet broad enough to embrace every special variety of disease.

By vote of the members, on the recommendation of Dr. White, the system of classification and nomenclature was adopted as the official code of the Association.

At the same time a permanent committee on statistics was appointed for the purpose of collecting data, to aid in the study of the prevalence and character of the skin diseases in the United States. A member was assigned to each district, with the request to send reports of all cases observed in private and dispensary work. Appropriate blanks were sent by the member supervising the district to all those who made the treatment of skin diseases a specialty, and to all those who had charge of dermatologic clinics and dispensaries. In the first report appeared a collection of 30,000 diseases, well recorded and tabulated. The statistical report is followed by a report from the same committee dealing with leprosy in America. As is the case today, leprosy was found in foci among the Norwegian colonies in Minnesota, among the blacks and Jews in South Carolina and the Gulf States, and some sporadic cases in our Northern states. The most interesting feature deals with the lepers found among the French residents of northeastern New Brunswick, from which point leprosy was spread to Providence, Rhode Island.

From the report it would seem that the cases of leprosy appeared to persist in the descendants of various families to such an extent that the resident physicians believed the disease to be hereditary, while one



Dr. Gordon maintained it to be contagious, having seen individuals of different races, living in leprous families, become infected.

It appeared from that report that a lazaretto had been established under the care of Dr. A. C. Smith, but since 1868 medical attendance had been discontinued, the patients remaining under the care of nuns of the Hotel Dieu of Montreal and of the chaplain, leaving the patients for twenty years without medical observation. This had deprived the profession of valuable data regarding the disease.

In the same report Dr. Atkinson gave an interesting account of leprosy in the Southern Atlantic States; Dr. Hyde, of leprosy in Minnesota. The incidence of leprosy in California and at the Sandwich Islands was taken from reports of the Health Officers, as narrated by Dr. White.

The committee on nomenclature, by establishing a uniformity of names of the diseases of the skin, obviated the difficulties attending the use of different names for one disease, so often the cause of confusion. The committee on statistics was able to show the prevalence and the character of skin diseases in the United States. The observations represented mostly the diseases of the skin in large cities, but when we consider that patients from rural districts often consult, or are referred by the family physician to a specialist in a large city, this represented a wider area than the city from which the observations were derived.

As Dr. Duhring said, the importance of collecting and preserving facts in connection with whatsoever department of science, cannot be overestimated. The hardest thing is to get possession of facts, and on them build the scientific structure. The progress of science is largely dependent on the character and the accuracy of the observations, and in no other branch of medicine are reliable observations so needed as in the study of dermatology. Scientific methods of research have now been introduced in our studies and much has been learned. A great many diseases have been made clear and have been found to be the result of general affections of the system, or local results of the action of bacteria or of fungi.

With the best of intentions, individual minds differ so much on account of their education or experience, that the views of two observers on the same subject will be at variance. It was, therefore, a great forward step when this Association began to devote time to the demonstrations of patients, illustrations and pathologic specimens, which part of the program has always been attended with success and has made one of the most interesting features of our annual meetings.

The report of carefully studied cases of unusual affections, controlled by accurate observations, with the application of laboratory tests and of appropriate therapy, increases our knowledge, stimulates

our diagnostic ability and is a guide for future observations in our practice. It is therefore commendable that, together with our scientific meeting, one or two sessions are given to the demonstration of patients and to the full discussion of the cases.

If we wish to look into the past we can find memoirs and works of physicians who, we can say, gave birth to American dermatology. To my mind it would be better to say dermatology in America, for the reason that science is international, has no boundary of countries nor of languages. Yet when others speak of a German, French, Italian or British dermatology, we too have to say American dermatology. Dr. Duhring, in his presidential address, Aug. 26, 1879, referred to all the works published in America on diseases of the skin. Indeed, no country can go very far back in dermatologic knowledge, because dermatology, until the time of Plenke, Willan, Cazenave and Schoedel, had no right to be called a science. We find that such an eminent man as Benjamin Rush in America, stated that leprosy, elephantiasis, scurvy and venereal diseases appear to be but different modifications of the same disorder, and that the same causes produce them in every age and country.<sup>1</sup> This subject, however, was not far advanced even in other countries, as Turner's work, full of crude observations and of the superstitions of his day, at the same time formed a standard work in England. In reference to syphilis, which had been prevalent in this country for over a century, we must make reference to Thomas Thacher,<sup>2</sup> who wrote that syphilis made its appearance in Boston in 1646. The people of Boston were very much concerned with the appearance of a disease with which they had not been acquainted. It originated in the wife of a seafaring man, who after childbirth was affected with an ulcerated breast. Many persons were employed to draw this woman's breast, by which means about sixteen persons, men, women and children, became affected with this odious disease.

Remarkable theses on subjects related to dermatology were presented in the University of Pennsylvania, which at this time had already risen to a conspicuous position as a seat of learning. Worthwhile to be recorded are Magruder on smallpox, Williamson on scarlet fever, Huger on gangrene and mortification, Condict on the effects of contagium on the human body; but the most important of all was that of Horsfield, "An Experimental Dissertation on Rhus Vernix, Rhus radicans and Rhus glabrum, Known as Poison Vine, or Comroson Summach."

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1. An Inquiry into the Natural History of Medicine among the Indians of North America. An oration delivered before the American Philosophical Societies. Phila., 1774.

2. Thacher, Thomas: Am. Med. Biog., Boston, 1828.

Essays and experimental works were made on the physiology of the skin, by Agnew of Princeton, and on perspiration and on absorption of the skin, concerning particularly the absorption of mercury in the treatment of syphilis.

We come now to Jenner's introduction of vaccination for the prevention of smallpox. Early in 1799, the great discovery was made public by Baron, in his "Life of Jenner." Benjamin Waterhouse,<sup>3</sup> professor of theory and practice in the University of Cambridge, inoculated seven of his own children with the cowpox virus obtained directly from Jenner. The following year he wrote his well known brochure, "A Prospect of Exterminating the Smallpox, Being the Discovery of the Variolæ Vaccinæ or Kinepox." Vaccination attracted a great deal of attention in this country, and a large number of pamphlets have been written on the interesting subject.

I must mention that in the first decade of the last century two Boylston Prize Essays were published; one on the subject of mortification, and the other on the "Structure and Physiology of the Skin, with a View to the Diagnostics and Cure of Diseases Usually Denominated Cutaneous." The author of the second was George Cheyne Shattuck, of Boston. The work is based entirely on his own observations and lacks any reference to earlier writers. Yet the work of Willan, which had been published in 1798 in London, and copies of which had probably been brought to America, is entirely ignored.

At this time foreign works on diseases of the skin were introduced in America. Hunter's "Treatise on the Venereal Diseases, with an Introduction and Commentary by Joseph Adams," Bateman's "Practical Synopsis of Cutaneous Diseases," Carmichael's "Essay on Venereal Diseases," etc., all appeared between the years 1818 and 1830. The literature of those times was very scanty in all subjects, and in reference to dermatology it was limited to a few observations, published as curiosities more than for scientific purposes, like Haskell's,<sup>4</sup> "Ichthyosis Cornea," a case of a negro whose skin became white, etc.

As Duhring so well stated, those were dark days for dermatology; the whole subject was shrouded in mystery, and it would seem was judged either too obscure or as being too insignificant to be worthy of serious attention. Lack of opportunities was no excuse, for much had been accomplished in England through the works of Willan and Bateman.

The first step in the study of dermatology in this country was made when on June 22, 1836, the Broome Street Infirmary for diseases of the skin was opened in New York, with Drs. H. D. Bulkley and John

3. Waterhouse, Benjamin: Boston, 1800.

4. Haskell. New England Journal of Medicine and Surgery, 1819.



Watson as physicians in charge. In this infirmary Dr. Bulkley delivered a course of lectures on diseases of the skin, which were the first in this country. The lectures continued for three years at the Broome Street School of Medicine and then at the College of Physicians and Surgeons in Crosby Street.

The importance of the study of the diseases of the skin was then realized. American students began to seek special instruction in this branch of medicine, and they went to Paris, where the Hôpital St. Louis offered the most attractive clinical material. The works of Alibert, Biett, Gibert, Cazenave, Schedel and Rayer had made the palmy days for French dermatology. This is the reason that the American works of those days bear the characteristics of French dermatology.

Books and pamphlets on dermatology begun to appear in great numbers, and were also in great demand. These included the works of Plumbe, "Practical Treatise on the Diseases of the Skin"; Colles on "Venereal Diseases"; Hunter's "Treatise on the Venereal Diseases, with Notes by James F. Palmer"; Ricord's "Practical Treatise on Venereal Diseases," translated from the French by H. P. Drummond; Erasmus Wilson's famous "Practical and Theoretical Treatise on Diseases of the Skin." Rayer's "Theoretical and Practical Treatise on the Diseases of the Skin with Colored Plates," edited by John Bell. Rayer was one of the most prominent dermatologists of France, and his works have remained always conspicuous in dermatology.

In the year 1845, N. Worchester, professor in the Medical College of Ohio, published the first American work on diseases of the skin, "A Synopsis of the Symptoms, Diagnosis and Treatment of the More Common and Important Diseases of the Skin," with sixty colored plates; Philadelphia, Boston, Cincinnati. The author did not aspire to originality; in his preface he claimed his object to be utility. Dr. Noah Worchester was born in Thorton, New Hampshire, in 1812, and graduated at Harvard in 1832. He taught at the Dartmouth Medical College. He spent some time in the hospitals of Paris, where he acquired knowledge in skin diseases. On his return he located in Cincinnati and occupied the chair of general pathology in the Medical College of Ohio. Later he removed to Cleveland to occupy the same chair in the Medical School of Cleveland. He died at the age of 35, in Cincinnati.

The classic work of Prof. George B. Wood, "Practice of Medicine," has excellent chapters on diseases of the skin, to which students of the subject have turned for information.



Eruptive fevers had been well treated by Dr. Nathaniel Chapman, and the subject of erysipelas, which was epidemic, had been well studied by Gross. The question of the origin of puerperal fever and epidemic erysipelas was then very ably discussed by Thomas C. Minor<sup>6</sup> of Cincinnati.

In 1850 the University of Pennsylvania came into possession of a fine collection of models of skin diseases purchased by Prof. George B. Wood; these were wax models executed by the English artist, Joseph Towne. The models are reproductions of the best specimens in Guy's Hospital Museum. This collection was later enriched by the contribution of Dr. H. H. Smith, professor of surgery, with seventy models of cutaneous and syphilitic diseases.

Republications of foreign books, with notes by the American editors, marks the progress of dermatology in the period of 1846. Yet some contributions of value on dermatologic subjects appeared in the medical journals. Dr. Savage and Dr. Hutchinson reported changes of color in the negro. Dugas reported a case of glanders in the human subject. Valentine Mott of New York described five cases of dermatolysis or pachydermatocele.

The profession was looking toward a higher development of medicine; dispensaries and clinics were opened for cutaneous diseases in all large cities. There was the Northwestern Dispensary with Drs. H. D. Bulkley, J. L. Smith and Stephen Smith; the Howard Hospital in Philadelphia, with a special department for skin diseases in charge of Dr. Oliver H. Partridge. In 1856 a clinic for skin and venereal diseases was opened at the Eastern Dispensary of New York, with Drs. Morse and Belden; the German Dispensary of New York, in charge of Drs. Edward Schandler and Joseph Goldmark; in 1862 the Northeastern Dispensary of New York offered a similar service with Drs. J. Scott Payne and Thomas Haigh acting as alternating physicians.

Well qualified students were coming back from their sojourn in Paris, having acquired knowledge and practice in the field of dermatology in the celebrated Hôpital St. Louis and began to take positions as instructors and lecturers in this branch of medicine. It was at this time that the fame of the Viennese dermatologist, Ferdinand Hebra, was reaching this country, and well prepared young men went to Vienna to listen to the words of a teacher who could readily explain diseases which had been considered of an obscure nature.

Dr. James C. White was one of the first pupils of Hebra, and after some years of study under that eminent teacher, came back home, fascinated with his dermatologic studies. He wrote on epizoa, epiphytes and itch, on lupus vulgaris, nature of favus, psoriasis, etc.,

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6. Minor, Thomas C.: Erysipelas and Childbed Fever. Cincinnati, 1874.

showing the force and value of the observations he made in the clinics of Vienna. In 1861 Dr. White gave his first course of lectures in Harvard University. In 1862 Dr. J. Adams Allen gave instruction in dermatology in Rush Medical College. At this period the war of secession broke out, and the attention of the profession was diverted to surgery, to save life and limbs, rather than to the refinements of medicine.

After the close of the war, important clinical lectureships on diseases of the skin were established; the first in 1865 in the University of New York, with Dr. F. D. Weisse head of the clinic, and later on, professor. When he resigned in 1874, Dr. Henry G. Piffard was elected to fill the vacancy. In 1866 Dr. William H. Draper lectured on diseases of the skin in the College of Physicians and Surgeons of New York; the following year he was appointed clinical professor.

In Bellevue Hospital Medical College in 1866 Dr. Foster Swift was appointed lecturer on dermatology, which office was afterwards changed to professor. After the death of Dr. Swift, Dr. Edward L. Keyes was chosen lecturer and then professor of dermatology.

In Philadelphia a chair on cutaneous and venereal diseases was established in Jefferson Medical College; Dr. Francis F. Maury was appointed to the position. He taught the subject clinically and theoretically, and as he was a distinguished surgeon, rendered the subject in an exceedingly interesting manner.

Piffard translated an essay of Hardy, "The Dartrous Diathesis, or Eczema and its Allied Affections." This work expounded plainly the views of the French School on the topic of cutaneous diseases, renewing the views and the doctrines of diatheses in skin diseases, following the treatise of Hardy and Bazin. At the same time the book of Hebra was published in English by the New Sydenham Society. His views, clear and simple, based on his large experience and on the pathologic doctrines of Rokitanski and Skoda, were immediately accepted by the great majority of dermatologists. The simplified nomenclature, the classification of the diseases of the skin, the well adapted therapeutic applications, made dermatology accessible and understood to all students.

At this period the science of dermatology had already advanced in the European cities, and it was the subject of serious study in this country. The works of Howard F. Damon, Edward Wigglesworth, L. A. Duhring, Henry G. Piffard, James C. White, Geo. T. Jackson and many others, established a solid base on which American dermatology is building its monument. It was in 1869 that the Dermatological Society was organized in New York. Its object was well defined to afford all those interested in this important department of medicine

an opportunity for a free exchange of their opinions and methods of practice, and to contribute American experience and investigation to the fast accumulating stock of knowledge of the diseases of the skin. This organization has since exerted a marked and unquestionably beneficial influence on the profession.

All this was promising for the individual members of the profession, but yet, as Dr. Keyes<sup>7</sup> wrote, the necessity of an American journal of cutaneous medicine was keenly felt. Indeed, journals of dermatology in Italian, English, German and French were published, but none on this side of the water. In 1870 appeared the *American Journal of Dermatology*, under the editorial management of Dr. M. H. Henry of New York, which constituted an event of import to American dermatology. It began to bring forth a considerable amount of facts and observations in this branch of medicine and was able to obtain an honorable position abroad as well as at home. This journal was discontinued and was followed by the *Archives of Dermatology*, under the editorial management of L. D. Bulkley, in October, 1874, continuing until October, 1882. At this time Drs. H. G. Piffard and P. A. Morrow issued the first number of the JOURNAL OF CUTANEOUS AND VENEREAL DISEASES, which continued under the joint editorship until 1886, when Dr. Piffard retired, Dr. Morrow continuing as THE JOURNAL'S sole editor. Dr. Fordyce, in 1889, became associate editor, and in 1892 was the sole editor. In 1896, Johnston coöperated with Fordyce until the latter retired from the editorship, THE JOURNAL continuing under the editorship of Johnston and Swinburne, with six associate members.

THE JOURNAL had the title of *Cutaneous and Venereal Diseases* until 1886. In 1887, venereal was dropped and the title was continued for many years as the *Journal of Cutaneous and Genito-Urinary Diseases*. In December, 1902, a change of hands in the administration of THE JOURNAL was announced. It was recognized that a line of separation was necessary between dermatology and genito-urinary diseases, both grown to the point of being regarded as separate specialties. In January, 1903, it appeared as THE JOURNAL OF CUTANEOUS DISEASES, INCLUDING SYPHILIS. The object was to have a medium for presenting the subjects of dermatology and syphilology alone. It was under the editorial direction of Drs. White, Hyde, Bronson, Morrow, Stelwagon, Jackson, Bowen and Fordyce, with Mewborn of New York as acting editor.

THE JOURNAL has always published original papers and exhaustive epitomes of practical character relating to the progress of dermatology in all parts of the world. It had been and it is the official channel of

7. Keyes: New York Med. Jour., June, 1869.



publication of the transactions of our Association, and the reports of the several dermatological societies in different cities. In these last years it has become the property of this Association, and under the present editorial staff, which deserves the support and the gratitude of every member of the Association, has reached the point of being one of the best journals of this kind for scientific communications, research work, clinical and microscopic illustrations, etc.

THE JOURNAL has to gain more circulation and be more appreciated among the general practitioners, who no longer have an excuse for their ignorance of skin diseases. The publication is continuously gaining in favor among foreign dermatologists, and the works of American dermatologists are widely quoted in Europe. Indeed, as Dr. White said, medicine is to advance to its highest development by the united labors of all nations, and any school is sadly narrowed which ignores the works of others.

We can say with Dr. George Thomas Jackson, that the record of the past is one of which we may well be proud. With the passing years we have grown stronger and stronger. We are a harmonious body, working for the honor of our Association and the work is of the highest grade.

History contains the elements of evolution, as well as of revolution. A link of mutual responsibility joins us as in one family, as a perfect chain of causation unites all changes. In the present status of the science we must not believe all we have heard, nor must we believe in statements made by old writers, without proof; we must believe only in what rests on reliable observation and analysis, and agrees with facts based on scientific truths. Facts, even when rightly observed, are not truths, they only yield them. As Roger Bacon said, "Truth is shaped, molded, evolved by the conjoint working of reason and fact." The first step is observation, then experiment comes to test and prove the observation, that it may become knowledge.

It is possible to construct a system of a pseudoscientific nature dealing with supposedly similar diseases, and various remedial agencies, out of whole cloth; but it will hardly bear the test of methodical investigation. Inquiry is the highest and noblest exercise of the intellectual faculties. It is a fact that in many scientific and philosophical questions, early thinkers have given currency to errors, which it has been the duty of the after-comers to revise and correct.

Very appropriately, Dr. Fordyce,<sup>8</sup> in his chairman's address, pointed out the complications of our nomenclature as a handicap to the students in imparting correct ideas on the nature of cutaneous

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8. Fordyce: Address by the President of the Amer. Dermat. Assn. Twenty-Third Annual Meeting, Philadelphia, 1899.



affections. Moreover, the great importance attached to trifling modifications in the character, grouping and distribution of lesions, in many cases makes for neglect of more important features, which certain classes of diseases have in common. In the group of inflammatory diseases, some erythemata, urticarial eruptions, dermatitis herpetiformis, pemphigus and even purpura show some common manifestations, which very likely depend on similar toxic agents acting on the vasomotor apparatus in individuals with different degrees of susceptibility. In the same way toxic agents proceeding from the same origin differ in their virulence, modified in their action by the resistance of the organism or by a partially acquired immunity of the individual.

Micro-organisms may produce toxic elements of different degrees of toxicity, according to the conditions in which they are placed. It is known that the tubercle bacillus in the skin gives toxic products less virulent than those in the lungs or in the joints. The origin of the bacilli has also great influence. The bovine tubercle bacilli are much more virulent, and this explains the difference of the clinical characters and of the course in a progressing lupus. Pyogenic organisms also show great difference in their virulence according to their source, to their quality, and to the condition of the system of the affected individual, thus explaining the differences in the appearance of the same disease.

Pathologic and bacteriologic investigations have enlightened many obscure points on the etiology of many diseases of the skin, and it is presumable that other affections, not yet well defined, like granuloma fungoides, will soon be cleared up.

Recent investigations have revealed the influence of disturbed internal secretions on the production of cutaneous affections. From the first productions of Brown-Séquard, in 1889, to the latest works of Biedl,<sup>9</sup> Poor,<sup>10</sup> Bayliss<sup>11</sup> and Starling,<sup>12</sup> concerning the hormones and the endocrine organs, light has been thrown on some obscure diseases and our views have been changed. It has been shown that every cell of the organism undergoing biochemical changes, by its own secretory products mixed in the stream of the circulating blood, is capable of producing a certain influence on the whole, by chemical correlation. All those organs which are producing hormones are to be considered as organs of internal secretions or endocrine organs. The internal secretions, either in an increased or in a diminished quantity, or perverted in quality, produce toxic elements, which poison the sys-

9. Biedl: Innere Sekretion. Berlin, 1913.

10. Poor, Franz: Ueber die Beziehungen einiger Hautkrankheiten zu der inneren Sekretion.

11. Bayliss: Naturforscher Versammlg., Stuttgart, 1906.

12. Starling: *Ibidem*.

tem. The other secretory organs usually compensate the activity of the perverted one so as to render the secretion less injurious to the system. Morbus Basedow is often accompanied by skin lesions as are also myxedema, acromegaly, dystrophia adiposa-genitalis, resulting from disturbances of these glands. Some pigment anomalies are the direct results of diseases of the suprarenal glands. The study and the progress of this scientific subject promises to reveal the nature and the origin of many other obscure diseases.

Some changes are taking place in the therapeutic field, which have a tendency to alter all our views in the old canonical treatment of the cutaneous affections. Vaccines and serum therapy, autoserum, the endovenous infusions with different remedial agents are already changing our methods of treatment.

Now we can apply here what was said by LeConte: "Stability is never perfect, the point of equilibrium is ever moving, disturbed equilibrium is soon readjusted on higher plane with still more beautiful and complex interrelations." Permanent equilibrium in any institution or society means social stagnation and decay. We have seen this Society in its onward movement, and it has to continue on its way of progress.

The limited number of members keeps this Society up to the highest standard. A dermatologist, when received into this Association, well knows that he has received the highest recognition from his colleagues. Indeed, as Voltaire<sup>13</sup> said, "the highest triumph of human pride is to receive titles of honor from those who think themselves our equals." It is difficult to arrive at this point in any monarchical government, but in our democratic America we have clearly succeeded. For this reason, a man who is dedicating his life, his work, his efforts to the study of dermatology, will feel, when elected a member of this Association, that he has received the highest honor from his colleagues.

From the standpoint of humanity the world knows how serious and unselfish have been the endeavors of medicine to prevent disease, to promulgate the science of sanitation and to further the cause of higher medical education. The dermatologist finds a wide field to work in, to prevent spreading of contagious diseases among the people and especially among the children in the schools.

The teaching of dermatology in the medical schools should be incumbent on the Association. The ability of the teachers, the time given to the clinics, the number of cases treated, ought to be known to the Association. It would be desirable that the Association enter into relations with the medical licensing boards, and see that a number of questions in dermatology and syphilology be given to the applicants as a part of the final examinations.

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13. Voltaire: *Essays on Literature, Philosophy, Art, History*, 37, p. 209.

I mentioned syphilology because this special branch of medicine has to be a part of dermatology, and the dermatologist only has the ability and the right to teach the general principles of this disease. In reference to the teaching of syphilology, Zeisler<sup>14</sup> sounded a strong note last year when he read a paper on "The Dermatologist the Proper Teacher of Syphilis." The same ideas were upheld by Irvine<sup>15</sup> and by Hazen,<sup>16</sup> pointing out the necessity of a better teaching of syphilis, and that the dermatologist is the proper man to head this department. The discovery of the spirochæta, the seroreaction, the treatment by arsenobenzol, has rendered the subject of syphilis more accessible to other workers in other departments of medicine, and also to the general practitioners. Yet every one of us finds in his experience cases of ulcerated gumma treated for cancer, cases of circinate syphilis treated for lichen, for the only reason that the Wassermann test was negative. The general teaching of syphilis, its history, general pathology, histology, serology and treatment should remain with the dermatologist. The inception of syphilis is in the skin, the further manifestations are in the skin and mucous membranes; an early diagnosis with an appropriate treatment will save the patient from unfortunate complications and from sad consequences. The early recognition of the specific origin of an ulcerated tumor will save the patient from an unnecessary and useless surgical operation.

Syphilis, a preventable disease, must be stamped out, and the responsibility lies mostly on the dermatologist. Syphilis is crowding hospitals and asylums with wrecks of humanity, causing an incalculable expenditure of the public money; it must be prevented by all the means at our disposition.

The study of dermatology is not exactly limited to the skin; it explains the pathologic processes occurring in the internal organs, and for this reason is one of the most important branches of the medical sciences. In order to explain the manifestations on the skin of bullous eruptions, ulcers, gangrenous spots resulting from neuritis or from vasomotor disturbances a knowledge of neurology is necessary. It requires a full knowledge of the toxic elements which are produced in a dilated stomach in a sluggish condition of the intestines. Rosacea, acne, pustular eruptions, stubborn cases of eczema, etc., often owe their origin to an intoxication from the *Bacillus coli communis*.

The dermatologist has to be also a surgeon, and I believe that we should claim many operations which are usually referred to the gen-

14. Zeisler, J.: The Dermatologist the Proper Teacher of Syphilis. *Jour. CUTAN. Dis.*, August, 1916, 34, p. 582.

15. Irvine, H. G.: Notes on the Teaching and Treatment of Syphilis. *Jour. A. M. A.*, Dec. 30, 1916, p. 1987.

16. Hazen, H. H.: The Teaching of Syphilis. *Am. Jour. Syph.*, 1, p. 135.



eral surgical department. Skin grafting, the transplantation of the skin, plastic operations and many other operations ought to be performed by the dermatologist, who thoroughly knows the anatomy, the physiology and the properties of the skin, as well as the necessity and time for operating. In erysipelas, abscesses of an infectious nature are often formed, which must be opened soon and drained in order to prevent general streptococcic infection, and to stop the wandering of the erysipelas. In some cases of phlegmon of the hands, feet, legs and face, the only way to stop the infection is by the prompt use of the knife and by good draining. In the treatment of leg ulcers from varicosities, ligation of the dilated veins, or the stripping of the internal saphena must be done in order to obtain healing of the ulcers.

I may say that even in the treatment of acne, if the pustules are not opened and the contents removed, we cannot obtain satisfactory results. Cases of local pruritus are today treated surgically. Cancer of the breast, cancer of the penis, Paget's disease ought to be given to the dermatologic department for treatment. The genito-urinary men, who have some points in common with our specialty, have today taken charge of every disease from the penis to the kidney. I do not see any reason why we have to acquiesce and let the surgical department take charge of our cases and operate on them. I believe that it is time that a surgical department of dermatology be instituted in the American College of Surgeons.

It should be the duty of our Association to see that the medical colleges offer to the students special pathologic instruction connected with the dermatologic department. The students should know the principal histologic alterations which take place in the skin, in the different diseases. They ought to be trained to prepare the skin for biopsy, cut it in sections and stain according to the different elements to be examined. In the same way, they must be able to examine the scales and crusts for the fungi which infest the skin. They should have some instruction in the cultivation of the different elements on culture media. In such simple affections as scabies, they must recognize the acarus, be able to take it out from a furrow and prove the existence of the itch mite.

The statistical reports of cutaneous diseases should be continued, and Dr. Pollitzer is to be congratulated for his very valuable statistical compilations.

At the present moment of acute crisis for our beloved country, our President, with his keen intuition and firmness, is able to inculcate in our people principles of superior wisdom, of liberty and democracy; and as a worthy chief in a commonwealth of freemen, resenting the affront to the United States, rather than submit to humiliation, has



declared that a state of war exists between the United States and the German Empire. At this delicate moment the American Dermatological Association has been requested by the Committee for National Defense to appoint a committee to confer with the medical advisers, and report on the activities of its members. Drs. Pusey, Fordyce and White were appointed and they have already responded, and have suggested the rôle that the members should play in the treatment of diseases with which they are most familiar.

Our Association is constantly progressing on a solid scientific base; every meeting is a new addition to its structure. Every year we meet each other, we communicate our ideas to each other; every meeting is a scientific and a social celebration. In going back home we carry with us new knowledges, new ideas, new views, new hopes, which we will develop for the good of science and for the benefit of humanity.

I will close my remarks with the verses of Roger Bacon:

. . . and when the stream  
Which overflow'd the mind has pass'd away,  
A consciousness remains that it has left  
Deposited upon the silent shore  
Of memory images and precious thoughts.

## Original Communications

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### A CASE OF MULTIPLE BENIGN TUMOR-LIKE NEW GROWTHS OF SCHWENINGER AND BUZZI \*

WILLIAM ALLEN PUSEY, M.D.

CHICAGO

Schweninger and Buzzi<sup>1</sup> described, under the name Multiple Benign Tumor-Like New Growths, a case showing a unique anomaly of the skin.

Crocker<sup>2</sup> says that cases have been also "observed" by Malcolm Morris, Colcott Fox and Van Hoorn, but gives no reference to any publication of these cases. He also refers very briefly to another case: "I have seen very similar lesions associated with fibromata of the ordinary form, when some of them have been absorbed."

Stelwagon<sup>3</sup> refers to a case which he has met, "in a middle-aged woman, with thirty to forty such bladder-like tumors over the region of the right shoulder, and immediately adjacent part of the back; they were of extremely slow development, and, as in the other cases, gave rise to no subjective symptoms. Over the well developed and older tumors the integument was distinctly atrophic or cicatricial looking, but soft and elastic."

I should say that Stelwagon's brief description represents a case of the condition, but Crocker's description of bladder-like soft tumors occurring in multiple fibroma, which are familiar, makes me doubt very much if his description refers to one of these cases.

So far as I am able to find, without pretending to have made an exhaustive search of the literature, there are no other cases of this peculiar condition described in dermatologic literature. In fact, there is only one completely recorded case—the original case of Schweninger and Buzzi. I wish to report another case which strikingly corresponds to the one described by Schweninger and Buzzi.

#### REPORT OF CASE

C. E., a man, aged 37 years, consulted me in regard to a peculiar permanent condition of the skin; more for the purpose of ascertaining its character than with the hope of finding out if anything could be done for it. The con-

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\* Read before the Twenty-Fourth Annual Meeting of the American Dermatological Association, Cincinnati, May 24-26, 1917.

1. Schweninger and Buzzi: International Atlas of Rare Skin Diseases. 1891 Part 5, Plate 15.

2. Crocker: Diseases of the Skin. Third Edition, p. 702.

3. Stelwagon: Diseases of the Skin. Seventh Edition, p. 667.

dition was characterized by small, almost flat, scar-like spots and oval swellings from the size of a pinhead to that of a hazel nut.

These lesions were found on the face—particularly the chin—on the upper half of the arms, on the back and buttocks. They varied from slightly elevated, small spots to hemispherical, bulging swellings, which looked as though at these points there was loss of strength in the skin so that it yielded to the pressure beneath. The lesions on the chin are well shown in the accompanying photograph. These, as well as the lesions elsewhere, are much more distinct by side light than by direct light. A side light is necessary in order to see the smaller lesions clearly. The term "tumor-like" of Schweninger and Buzzi is a happy description of the larger lesions. They are raised, oval or hemispherical tumors, but they are as soft or softer than the normal skin, and are completely reduced either by light pressure over them or by putting the skin on the stretch. When the pressure is removed they immediately resume their original shape. The patient's barber had noted that the masses flattened out under the razor, and that there was no difficulty in shaving over them. The skin over the lesions on the chin is of normal color or occasionally shows a faint slate color or reddish tinge. In the larger lesions some dilated blood vessels are visible. The hair follicles show no visible change. These lesions on the chin are the largest that exist except those on the buttocks.

The lesions on the upper lip are few and of the same appearance as the smaller lesions on the chin. Numerous very slightly elevated lesions are found on the forehead. On the face, as elsewhere on the body, the eruption is evenly distributed on the two sides.

On the back the lesions occur in an area extending at the midline from the third dorsal to the second lumbar vertebra, and from the posterior axillary folds to the crests of the ilia. The lesions here are not globular, but are oval or linear patches, very slightly raised above the level of the surrounding skin, and look like thin scars or slightly raised blisters. Many of them are visible only by side light. In size they may vary from a pinhead to that of a fingernail, and they are arranged with their long axis following the cleavage lines of the skin. Some of them are distinctly whiter than the normal skin; they look, in fact, like the white scars that result when bits of skin are clipped out to make skin grafts. Other lesions, particularly the larger ones, are of a light yellowish-brown color. In the larger lesions the surface has a cigaret paper appearance, and the fine markings of the skin are accentuated. Some of the lesions show a few dilated follicles on their surface, but none of these follicles appeared as blackish points, as described by Schweninger and Buzzi in their case.

The lesions on the arms are similar to those on the back, and are confined to the extensor surfaces of the upper half of the arms. There are no lesions on the forearms or hands.

On the buttocks the lesions are very numerous, and are largest, some of them having a long diameter of about 2 cm.

At the sides of the neck, back of the ears, the skin is mottled by small oval spots, 4 mm. in long diameter which are slightly lighter in color than the surrounding skin. While their elevation cannot be made out—on account of the fact that they are covered with hair—there seems no reason to doubt that they are lesions of the same character as those existing elsewhere.

The lesions show no disturbance of sensation.

The lesions first appeared on the chin, and were discovered when the patient was about 22 years old—fifteen years ago. They were noticed on the back about three years later. They have slowly increased in number since. The patient thinks that the lesions attain their full size in a few months and subsequently do not enlarge. Many of the flattened lesions look as though they might have shrunk. On the other hand, the atrophic character of the lesions would account for this appearance, and as far as the patient has observed there has been no shrinking of the lesions. Their appearance and their subsequent course have been absolutely unassociated with subjective symptoms.



Fig. 1.—Showing multiple lesions on chin.

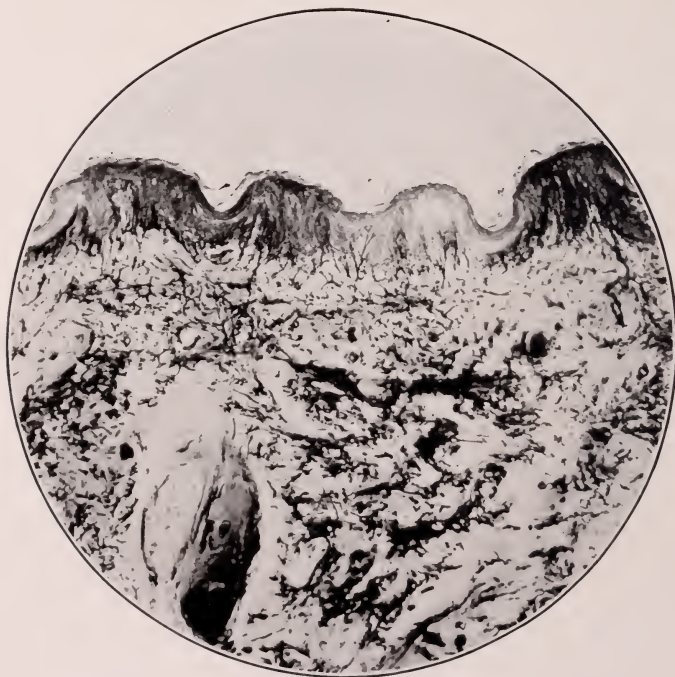


Fig. 2.—Showing elastic fibers in border of lesion. Weigert's stain.



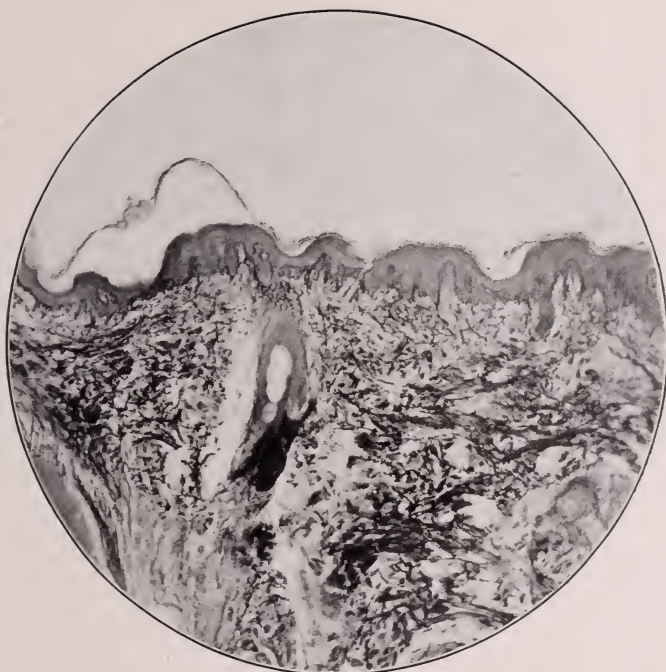


Fig. 3.—Showing elastic fibers in border of lesion. Weigert's stain.

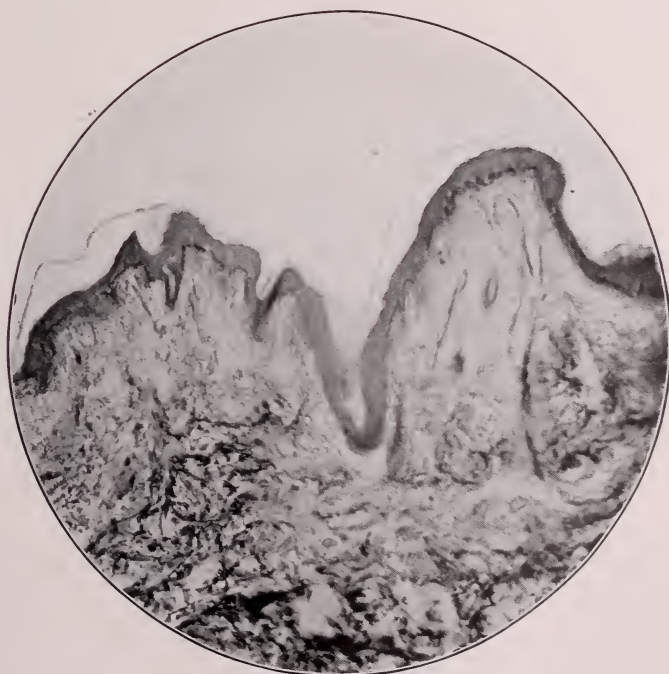


Fig. 4.—Absence of elastic fibers in center of lesion. Weigert's stain.

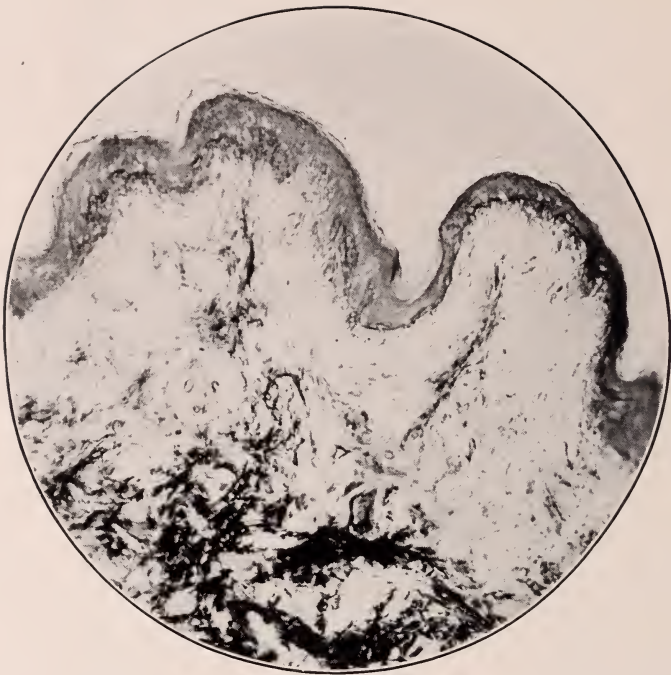


Fig. 5.—Absence of elastic fibers in center of tumor. Weigert's stain.

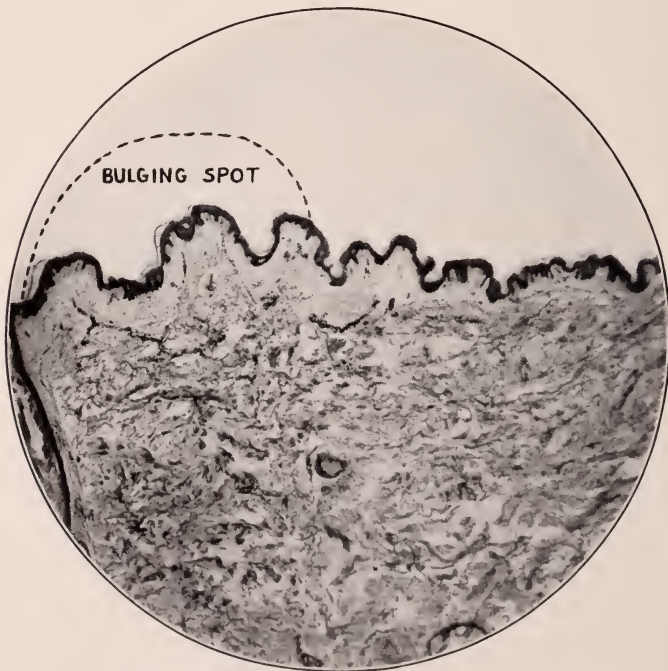


Fig. 6.—Multiple benign tumor-like new growth. Lesion under low power showing hernia-like projections in center of tumor. H. & G. stains.

The patient is an intelligent man of the upper class, of medium height and weight. Over the trunk there are a few small senile ectases and a few pigmented-moles, but their number is not extraordinary. He has no other cutaneous defects. He is in vigorous health and has never had any serious illness. He has not had syphilis. As far as he knows there has been no similar condition in any other member of his family.

#### HISTOLOGIC REPORT

One of the smaller but distinct lesions on the back was excised, fixed in liquor formaldehydi, embedded in paraffin, and stained with hematoxylin and eosin, polychrome methylene blue and orcein, and Weigert's stain. When the section is examined under a very low power, it is seen that near the center of the section the epidermis is raised above the level of the surrounding parts in several verrucous folds, and that the interpapillary processes are fewer in number and shorter. Under a higher power it is found that this portion corresponds exactly with the loss of elastica.

The stratum corneum shows no change. There is no parakeratosis. Traces of stratum lucidum are visible here and there. The granular layer is unaltered, varying in thickness from one to two layers, and the granules and nuclei of the cells appear normal. The rete malpighii shows no marked change, although it appears to be somewhat thinner in the affected part, and in some specimens the cells seem to be more closely packed. The basal layer is unchanged.

The corium is the seat of most interesting changes, the picture corresponding almost exactly with that previously described by Schweninger and Buzzi. The striking features are: first, a marked loss of elastic tissue in the involved area, and second, an infiltration of round cells about the blood vessels. The most marked change in the elastica is in the papillary and subpapillary portions. Differential stains show a complete loss of elastic tissue here. In the deeper layers of the corium there is also a considerable diminution in the number of elastic fibers, and those remaining are broken and fragmented. Beyond the border the elastica is normal. An increase in its amount at the border as described by Schweninger and Buzzi is not apparent in my sections. The part in which the most complete involvement has occurred is well demarked from the surrounding skin in two ways. First, by the fairly sharp beginning of the loss of elastica; and second, by the bulging outward of the epidermis: the latter is undoubtedly due to the fact that the skin, weakened by the absence of elastica, has yielded somewhat to the pressure beneath and been pushed out in a hernia-like swelling.

The cellular infiltrate occurs particularly and almost exclusively about the vessels. The infiltrate is confined for the most part to the vessels of the superficial layer of the cutis. It does not occur around the sweat and hair follicles, as in Schweninger and Buzzi's case. The cells of the infiltrate are, for the most part, of small round-cell type, although there is also a considerable increase above the normal in mast cells and plasma cells. There is a moderate dilatation of several of the larger subpapillary vessels. Aside from the loss of elastic tissue and the perivascular infiltration, the corium is normal. There is no change in the collagen. There is no enlargement of the sebaceous and sweat glands, and those present are of normal appearance.

#### COMMENT

There is little difference between this case and the case reported by Schweninger and Buzzi. In their case the disease appeared in a woman, at the age of 22, about six months after marriage. The distribution was almost the same. The lesions were found on the back and arms, and one on the chin. Their size, shape and distribution were the same. They were whitish, or normal in color; some of them with a slightly



blue tint. This bluish tint was lacking in my case except for a slaty color in the lesions on the chin. They disappeared under pressure and the swelling reappeared on its removal. There was no disturbance of sensation, and there were no subjective symptoms. The patient was a healthy woman with a healthy husband. There was no history of a similar condition in other members of the family.

The same changes were found in the elastica, and were found in all of their sections. They found around the blood vessels an accumulation of young round cells, which was especially marked in the superficial horizontal network. They found a similar infiltrate around the sebaceous glands, hair follicles, and tubes of the sweat glands. This infiltrate around the follicles of the skin was not found in my sections. They also found a proliferation of the endothelium of the blood vessels, and an enlargement of the sebaceous glands. These were absent in my sections.

Schweninger and Buzzi regarded the condition as a pathologic process characterized by degeneration of the elastica. The whole picture strikes me as a congenital defect in the skin — one characterized by failure of development of the elastic fibers in minute areas of the skin; this lack of elastic fibers in the upper part of the corium resulting in a weakening of the corium and a consequent bulging in these areas. The appearance of the lesions only in adult life might readily be accounted for by the fact that the weakness in the structure of the skin might not be sufficient to cause it to manifest itself in the youthful skin, but would show itself by yielding at the points of defective structure as the skin lost its youthful tone. The slight cellular infiltration in the skin might be accounted for by the injury to the tissues which resulted from their giving way. A similar infiltration may be found in *linea albicantes*, which are in a way, analogous lesions. A congenital defect of development of elastic fibers is not an unknown occurrence. Engman and Mook have shown that there is a congenital lack of development of elastic fibers in the papillary layer in *epidermolysis bullosa*.

#### DISCUSSION

DR. HARTZELL said he had not had the opportunity of seeing these photographs, but the clinical description was very much like some of the lesions of fibroma. He should like to ask the reader of the paper if that was at all the impression from a superficial examination.

DR. PUSEY replied, Not at all. He thought of soft fibroma in connection with it.

DR. ENGMAN said he would like to ask Dr. Pusey if there was a loss of elastic tissue due to certain inflammatory changes or to a degeneration.

DR. POLLITZER said it was interesting to note the difference that we got in the various conditions of the skin in the absence of elastic fibers or degeneration. It would be of value, he thought, if Dr. Pusey or those who have had opportunity to study the conditions, would devote special attention to an explanation of the clinical differences in appearance we found in these conditions. Why in one case there was the congenital absence of elastic fibers, as



in epidermolysis bullosa, and in other cases we got simply soft, tumor-like masses. In some cases we had a pronounced degeneration of elastic fibers with fragmentation of the fibers, as in pseudoxanthoma elasticum. We had a yellowish pigmentation, we had tumor-like growths that had a distinct yellowish appearance. He should like to ask Dr. Pusey to illuminate this phase of the subject.

DR. ENGMAN said that in the case of amebic infection he was going to report this morning, like all cases, when the ameba entered the skin it had a specific and dissolving effect on the elastic tissue at once.

DR. MACKEE: There was another group of cases which, perhaps, would have to be considered in differentiation. There was a case of dermatolysis of the papulo-nodular type reported by Dr. Wise several years ago. One of the marked features in the lesion histologically was the absence of elastic tissue. Clinically the lesions did not look unlike the clinical picture presented by Dr. Pusey. Another striking histological feature was the myxedematous degeneration of the connective tissue.

DR. PUSEY said that the case he reported was the second one on record, and no generalization should be made from two cases. It was rather too early to make a generalization. He did not know where the case belonged except in the group of Schweniger and Buzzi, which was practically identical. He thought of the possibility of multiple fibromyomata and the necessity for differentiating it. Clinically it presented no more resemblance to the usual case of multiple fibroma than to lupus erythematosus. The picture was one of slight bulging of the skin with no new growths as had been mentioned, and clinically the case presented no similarity to multiple fibromyomata. Histologically also, it was not multiple fibromyomata. There was no question in his mind but that it was a congenital defect in the skin, and to that extent it was probably analogous to multiple fibromyomata.

As to the point raised by Dr. Engman of whether there was inflammatory degeneration, the inflammatory factor was a distinctly secondary one; it was only around the vessels, and examination of the sections did not give the impression that it was elastic tissue degeneration following inflammation, but that the inflammatory change was purely of a secondary character. Schweniger and Buzzi explained it as being due to inflammatory degeneration. He did not think they were correct. There was no evidence of any such microscopic phenomena yet. He compared the case with Dr. Wise's case of dermatolysis, and he concluded from that comparison that the two conditions were entirely distinct and not analogous. It was practically a unique case.

DR. HEIMANN said he would like to know what Dr. Pusey's views were on the relationship of this condition to macular atrophies. Clinically and histologically there were a great many points of resemblance.

DR. PUSEY asked what the last speaker meant by macular atrophy?

DR. HEIMANN replied, Small, tumor-like, slightly elevated masses developing in these cases, which led subsequently to a localized atrophy.

DR. PUSEY said he did not have a clear picture in mind and could not answer the question.

DR. POLLITZER brought up an interesting question. We had one congenital defect of the skin with circumscribed areas of loss of elasticum, in which we had lesions like these. We had epidermolysis bullosa with loss of elastic tissue, with an entirely different clinical result. There was one distinction, and that was in epidermolysis bullosa in most cases the loss of elasticum had been universal, while in this case it was not confined to the affected areas. Why loss of elastic tissue did not cause epidermolysis bullosa in these cases he did not know. It may be there were some fibers existing in the superficial layer, and the members may have thought he was alluding to that, but he was not.

DR. POLLITZER inquired if the elasticum around the blood vessels was preserved.

DR. PUSEY replied that in the affected areas the elasticum was preserved. The blood vessels showed no difference from the rest of the area.

# THE ELECTRIC CAUTERY IN CUTANEOUS SURGERY \*

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We frequently hear it stated that dermatologists are mere purveyors of salves and lotions, and that they do not pay enough attention to either the general physical condition of the patient or to the proper surgical treatment of infections or of conditions demanding surgical removal. An examination of the modern textbooks on dermatology should serve to dispel, to some extent at least, both of these opinions. And yet none of the books makes more than casual mention of the use of the cautery in cutaneous surgery, although all surgeons know that this instrument is extremely valuable in certain conditions.

There are many skin lesions that demand removal; in this list may be included corns, callosities, granuloma pyogenicum, dermatitis vegetans, lupus vulgaris, blastomycosis, molluscum contagiosum, venereal warts, xanthelasma, keratoses, cutaneous horns, benign fibro-epitheliomata or papillomata, pigmented nevi, various types of angiomas and lymphangiomas, benign tumors of the cutaneous appendages, cancers, sarcomas, keloids, various benign tumors and leukoplakia, where the removal of local irritation will not suffice. Lastly, it is frequently necessary to remove a small portion of tissue for diagnosis, especially to determine whether or not malignancy exists.

To remove such growths we have at our disposal a number of methods. There are the various caustics, such as arsenic, zinc chlorid, trichloroacetic acid, the acid nitrate of mercury and caustic potash. Carbon dioxide snow probably should be classified in this group. Among the electric methods there are fulguration, diathermy, etc., also the electric needle. The Roentgen ray and radium are used in some conditions, and lastly there remain the curet, the knife and the cautery, either Paquelin or electric.

The caustics have certain marked disadvantages: the superficially acting ones, such as silver nitrate, are worthless except in some extremely superficial lesions, and the ones that act deeply are extremely difficult to control, especially as they must act over a considerable space

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of time. The pain is usually very intense; any patient who has had an arsenic paste employed for cancer is not anxious to repeat the experience, unless he enjoy martyrdom. Finally, the employment of such remedies does not permit of histologic examination of the removed tissue, a point which is always important if one is to practice medicine scientifically. Carbon dioxid snow obviates some of these disadvantages, for it is quick and usually not painful, but as a rule it does not act sufficiently deep. In cancer or lupus vulgaris it is valueless or worse than valueless, for many has been the case of cutaneous cancer that has simply been stimulated by it. Bloodgood has shown that even when ordinary moles are treated with it, some of the nevoid cells are apt to remain. However, in the treatment of certain of the angiomas and of lupus erythematosus, it is extremely valuable. From considerable personal observation the author does not believe that fulguration and diathermy present any value that the cautery cannot equal, and in addition they are much slower in their action. The electric needle is of value in removing small, superficial, nonmalignant conditions, for it is painless and leaves an excellent cosmetic result, but it is entirely too slow for large lesions.

The field of the Roentgen ray and of radium is small, although at times they are of extreme value in handling cases of cancer, sarcoma, lupus vulgaris, blastomycosis, keloids, keratoses and many of the inflammatory skin diseases. They will remove practically none of the other conditions mentioned in the foregoing list, unless their action be carried to the point of producing a burn, and it is fortunately not necessary to dilate on the danger of either radium or Roentgen ray burns.

The use of the curet alone is always to be deplored, inasmuch as it leaves an ugly, jagged wound, and inasmuch as it cannot touch the outlying pathologic cells that are usually to be found in otherwise normal tissue. When followed up by a caustic, as the acid nitrate of mercury, it may be valuable in various superficial conditions, such as basal celled cancer. The use of the knife is unquestionably the cleanest way of disposing of many lesions, particularly of the nonmalignant neoplasms; in the hands of a really competent surgeon the resulting scar is often almost infinitesimal. However, the operation must be surgically clean, the wound must be closed with stitches, and dressings are always required, as well as more or less after-care. A fairly wide margin must always be available. The knife gives the best tissue for pathologic examination.

For heavy work the actual cautery is probably superior to most of the electric cauteries, for the blade will not burn out so readily, when removed from the tissues; but for light work the electric cautery has



several great advantages: it is mechanically easier to operate, and it is easier to keep at a steady heat, either dull red or bright red. With the cautery one simply cannot do a dirty operation; scrubbing and sterilization of the hands, of the instruments and of the patient can safely be dispensed with. An operation can be done with great rapidity, and with the use of a local anesthetic is painless. After operation the wound is perfectly dry and there is no occasion for hemostasis, no dressings are required, for the scab makes its own dressing. Where it is impossible to give much margin, the cautery is the ideal instrument. In cases of malignancy the blood vessels and lymphatics are sealed and all of the neighboring cells are thoroughly cooked; all surgeons are agreed that in malignancy there are fewer recurrences after the use of the cautery than after the use of the knife. And finally, the cosmetic results are excellent, for the resulting scar is comparatively small and is white, soft and flexible. Tissues are available for microscopic examination, although the edges are completely spoiled.

In my own work I have found the electric cautery to be of the greatest value in the treatment of the following conditions: soft corns, granuloma pyogenicum, lupus vulgaris, keratoses, papillomas, pigmented moles, xanthelasma, cancer, leukoplakia and for the removal of tissue for diagnostic purposes, where malignancy is suspected. In soft corns there is probably a lymph vessel that aids in supplying fluid to the lesion and keeping it soft, and if this be sealed with the cautery the lesion will permanently disappear. It has been our custom to excise the lesion with a fairly heavy blade and then thoroughly cauterize the base. In granuloma pyogenicum the protruding mass may be excised and the base simply touched. In lupus vulgaris deep cauterization is necessary, for the lesions have a most unfortunate way of recurring after any superficial type of work, a tendency that can readily be explained by a study of the pathology of the condition, which is deeper than the average physician realizes. In the case of keratoses, the edge of the blade is inserted at the edge of the lesion and then shoved along beneath it; papillomas may safely be treated in the same way. Pigmented moles are simply touched with the point of a small blade; we have removed lesions from the eyelid with perfect cosmetic results. Malignant conditions should be excised as is done with a knife. In leukoplakia, the flat of the blade is simply applied to the lesion. In all cases local anesthesia is employed, just as though a knife were to be used.

Several types of electric cautery are on the market. We have found it handy to have two; the heavy one is a 110-volt, 2-ampere machine, and the other is much smaller and lighter, but nevertheless very handy for all small growths.



## CONCLUSION

The cautery should displace the use of caustics in practically all conditions, and frequently the knife as well.

## DISCUSSION

DR. PUSEY said that we were indebted to Dr. Hazen for bringing up the matter of the use of the electric cautery in dermatology. In the last few years he had used the cautery more and more through the suggestion he had had from one man and another, and while he did not see the advantages of it over other methods of treatment, he did use it in some of the conditions mentioned by the essayist. He wanted to support the position taken as to its great convenience in removing many of the lesions of the skin that required complete and thorough removal. His chief reason for getting up was the fact that the essayist did not refer to the use of the electric cautery in removing xanthomas about the eyelids. He had his attention called to that by Dr. Darier of Springfield several years ago, and it proved a most excellent method of treating these lesions in his experience. He made small punctures through the lesion with the cautery. This method had given him excellent results in the treatment of such blemishes.

As to the removal of moles from the eyelid, he treated many lesions of the upper lid with the electric cautery, and he was sure from his experience that it may be used equally well for other lesions in that locality.

DR. WALLHAUSER said he would like to say a word in reference to the use of the electric cautery in the conditions mentioned by Dr. Hazen. He had not employed it to any great extent in the last few years. He tried it in cases of lupus vulgaris in which he had had recurrences. It was not applicable to cases with extensive areas involved. It was only applicable in early cases, and even in early cases several deep applications were necessary. In the cases in which the lesions were advanced an inch or two he doubted whether it will be effective. In carcinoma or epithelioma it was particularly useful about the lids. He had had cases treated with the electric cautery ten years ago in which no recurrences had since developed. With the injection of novocain the lesion could be removed with one application. He had treated many cases of xanthoma palpebrarum with light applications.

DR. LIEBERTHAL said he was particularly interested in this paper because he had been using the thermo-cautery and had found it exceedingly valuable in the treatment of furuncles, using a very narrow tip. As soon as a yellow point in the center had developed, even if it was safe to puncture with the tip of the knife, the use of the cautery was valuable, and it was excellent in those cases where you have skin separated from the loose subcutaneous tissue; it did not matter how deep the process was, the effect would be excellent, especially on the mucous membranes. He found it a superior method of treatment in another condition, namely, rhinophyma. In this condition a much better cosmetic result could be achieved with the cautery than could be obtained with the knife. There was no danger of infection whatsoever.

DR. HAZEN said that in reference to lupus, he remembered one case in which the cheek was involved. A surgeon excised the whole patch with the cautery knife. The patch was a large one, and up to this time there had been no recurrence.

# FURTHER STUDIES ON THE MODE OF ABSORPTION OF MERCURY IN THE INUNCTION TREATMENT OF SYPHILIS \*

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In a previous publication<sup>1</sup> we detailed experiments bearing on the mode of absorption of mercury in the inunction treatment of syphilis. In this publication we experimented with various mercurial salts of low vapor pressure in order to determine whether such salts could be absorbed through the skin, under conditions which did not permit of their volatilization. Our experiments also included the use of the more volatile salts, that is, those of high vapor pressure. In order to determine whether these salts were actually absorbed through inhalation, we employed conditions which did not permit of their absorption through the skin. Our experiments taught us, and we concluded therefrom, that in the inunction treatment of syphilis, mercury is appreciably absorbed by direct diffusion through the skin and by volatilization and subsequent inhalation or diffusion. We were able, in our preliminary study, also to ascertain something as to the rapidity of absorption of the various salts, employing as an index of absorption the detection of mercury in the urine. Since our first publication the sensitiveness of our test has been elaborated so that at the present writing one-millionth of a grain of mercury in solution may be detected macroscopically by the test employed. This test has appeared as a separate publication by one of us (Elliott).<sup>2</sup>

In brief, the method of detection of mercury embodies the use of copper dust in an acid solution of the suspected material. The mercury is taken up to its last trace by the copper dust. The latter is then col-

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1. Wile, U. J., and Elliott, J. A.: Mode of Absorption of Mercury in the Inunction Treatment of Syphilis. *Jour. Am. Med. Assn.*, April 7, 1917, p. 1024.

2. Elliott, J. A.: A New and Delicate Method for the Detection of Mercury, *Jour. Am. Med. Assn.*, June 9, 1917, p. 1693.

lected, dried and heated in the distal end of a bulb-tube. The mercury is thus driven off and deposited as an amalgam on a small particle of dental gold leaf. By means of this test we have been able to detect most minute quantities of mercury in solution.

Our preliminary experiments led us to believe that blue ointment, or the unguentum hydrargyri, and calomel ointment of equal mercurial content, representing forms of mercury having a high vapor pressure, were far more readily absorbed and eliminated in larger quantities when anointed on the skin, than any other salts employed.

In the present series of experiments we have attempted a comparison of the absorbability and elimination, particularly of calomel ointment and blue ointment. It was our thought that if calomel were as readily absorbed and as readily eliminated as the blue ointment, one might conclude that its therapeutic effect would be equally as rapid. In this event its greater cleanliness might justify replacing the blue ointment in our therapeutic armamentarium. We also attempted to determine not only the presence of mercury from parallel inunctions of mercury ointment and calomel ointment in the urine, but we investigated further the various body fluids, such as the stomach contents, the saliva, the blood, the milk, and the spinal fluid. An investigation of the sweat was obviously impossible, owing to the fact that we were employing the inunction method of treatment.

#### EXPERIMENTS ON THE BLOOD

In determining the presence of mercury in the blood, it became necessary to employ a modification of the method used in determining its presence in the urine, owing to the large amount of organic matter present. This modification consisted in distilling by heat the blood with sulphuric acid to destroy organic matter, and testing for mercury in both distillate and residue.

In a series of experiments in which blue ointment and calomel had been rubbed on the skin, we were able to detect the mercury in the blood in the case of the blue ointment only after a considerable number of inunctions had been given. In the case of calomel we were unable to determine the presence of mercury in the blood as far as we tested, that is to say, it did not appear in the blood after the same number of inunctions with the blue ointment. From this experiment we concluded that mercury is eliminated into the blood stream more rapidly in the case of blue ointment than in the case of calomel.

As an incidental experiment we determined with great readiness the presence of mercury in the blood, following injections of salicylate of mercury, bichlorid of mercury, and succinimid of mercury. In the case of the sublimate, mercury was found after the third injection. In the case of the other two salts, both had been given a longer time,

although mercury was probably present in the blood before we tested for it.

#### EXPERIMENTS ON THE SPINAL FLUID

From the experiments on the spinal fluid we gathered most interesting data. We attempted the detection of mercury in many different experiments following inunction of both calomel and blue ointment, and following injections of mercury salicylate, succinimid, and bichlorid. In no case were we able to detect the faintest trace of mercury in the spinal fluid. Believing that perhaps the amount of fluid which we tested was too small, we collected fluid from several different cases that had been taking mercury in various forms for a long period of time. This experiment likewise proved negative. We were able, furthermore, to test the spinal fluid of a patient who died of mercurial poisoning from ingestion of sublimate. The spinal fluid in this case also failed to reveal the presence of mercury.

#### EXPERIMENTS ON THE MILK

The milk from various nursing women was tested following their inunction with both blue ointment and calomel. In both cases mercury in appreciable quantity was found as soon as tested for, that is, after one week of inunctions, and undoubtedly would have been shown to be present earlier had we had the opportunity of testing for it. To avoid the possibility that the milk had been contaminated by the skin, we placed nursing women on the injection treatment and found mercury in the milk forty-eight hours after injection with the bichlorid. From this experiment we may justly conclude that mercury is eliminated in very appreciable quantity by the lactiferous glands.

#### EXPERIMENTS ON THE SALIVA

It has long been known that mercury is eliminated through the salivary glands and that its presence gives rise to salivation in cases of overdosage of mercury. We investigated the saliva of patients receiving inunctions of both calomel and blue ointment and were able to detect mercury, although not in strikingly large quantities, in both instances. One case in which calomel ointment was used in connection with wet dressings of sublimate on an open syphilitic ulcer, yielded a very positive result in the saliva in the absence of any evident stomatitis or salivation. It may thus be concluded that the salivary glands excrete mercury even in the absence of excessive glandular activity.

#### EXPERIMENTS ON STOMACH CONTENTS

In washings from the stomach we were able to detect mercury following inunctions of both calomel and blue ointment. In both



cases, however, the tests were made after several inunctions had been given. It seems not unlikely that it would have been found earlier had we had the opportunity of making the tests. The question as to how much of the mercury in the stomach is actually eliminated there, and how much is due to the elimination through the saliva and subsequent swallowing, is a point which we have not had the opportunity, thus far, of deciding.

Owing to the volatilization of both calomel and blue ointment as shown in our first communication, the nasal secretion obviously did not lend itself to experimentation.

While we had no definite data as to the relative rapidity with which mercury may be determined following inunctions with calomel and blue ointment in the case of other body fluids, we have shown definitely that in the case of calomel, the elimination in the urine is much slower than it is with blue ointment. In general, we believe the mercury following the use of calomel appears later in the other body fluids as well.

With regard to the relative therapeutic value of calomel and blue ointment, we are not prepared to make a definite statement at this time. From our own observation and from communications from others who are using calomel in the form of inunctions, it would seem that its therapeutic effect stands favorable comparison with the therapeutic effect of the blue ointment. This fact is also not at variance with our findings, inasmuch as the slow absorption and elimination of mercury is perhaps more desirable than a rapid diffusion.

Complementary to experimental studies, further data should be forthcoming following a long series of clinical observations before the blue ointment should be discarded in favor of calomel ointment in the inunction treatment of syphilis. If such data will establish an equal therapeutic value for calomel, then it might well supersede blue ointment in our armamentarium as a cleaner method of anointing mercury.

#### DISCUSSION

DR. SCHAMBERG said that he had been much interested in the presentation of Dr. Wile and was glad he had presented this material because his series of experiments and theirs complemented each other. Their experiments were carried out on animals owing to the controversy that had existed for some time in Europe and elsewhere as to whether mercury could by inunction be absorbed through the skin and volatilized and absorbed through the lung. These box experiments could be best illustrated on the blackboard. This box (indicating) was practically air proof, with an aperture at one end fitted with an inlet, so that the rabbit could lie in the box with the head outside and breathe the external air. A central partition had a similar aperture through which to control the rabbit's head, the animal breathing the mercury laden atmosphere. The hair was removed by a depilatory and moist rubbing every few days. After four inunctions the anointed rabbit died. They found distinct evidences of mercurial nephritis in one or two rabbits, and their organs

were subjected to analysis for mercury. Mercury was invariably found in considerable quantities in the liver and kidneys of the anointed animal, but not in the lungs. With the control animal large amounts of mercury were found in the lungs, and little or none in the kidneys and liver. The control animal survived the period of experimentation and was killed. Animal A, the one breathing the outside air, nearly always died after massive inunctions.

From these experiments, which were repeated on six rabbits, they came to the definite conclusion that mercury may be absorbed through the skin, in the first place, and in the second place, giving inunctions, the dominating function of absorption was in the skin, but that mercury may likewise be absorbed through the lungs. (He doubted whether under ordinary conditions, that played nearly as large a factor as true cutaneous absorption.) Their experiment indicated that calomel was not volatilized to the extent that metallic mercury was and was less absorbed through the lungs than mercurial ointment. That could be counted on by using calomel inunctions in proportionately larger doses. Forty-five grains of calomel to one gram of lanolin and two grams of benzoated lard will be absorbed into any skin within ten minutes. This fact ought to restore mercurial inunctions to the place which they deserved. Inunctions were undoubtedly the safest method of giving mercury in massive form.

DR. WISE said he would like to ask Dr. Wile if the spinal fluid contained any mercury. If not, what his explanation was as to that phenomenon.

DR. WILE in answer to the question of Dr. Wise, said that there had been some preliminary work done in connection with salvarsan. Investigators had used that and found it was practically impossible to find arsenic in the spinal fluid following intravenous injections. Just why mercury was not excreted into the spinal fluid was a question of circulation of the spinal fluid concerning which we were still somewhat in doubt. He thought the next experiment which they will undertake, will be the determination of mercury in the brain and cord tissue. It would seem probable that the choroid plexus filtered out the salts of mercury.

A practical point which should be considered here, was the explanation of many cases of neural syphilis, notwithstanding the most energetic mercurial treatment given in the usual way, and it was a plea for the early treatment of syphilis of the spinal canal.

The other point concerned the elimination of mercury in the stomach. The nursing children of syphilitic mothers must derive benefit from the mercury eliminated through the mother's milk.

DR. POLLITZER said he would like to ask Dr. Wile if he perhaps could not make a determination of the presence of substances with small molecules. The salvarsan molecule was one of enormous size. The molecule of mercury was also of large size. If salts were used, with small molecular volume, such as a salt of ready diffusibility, as potassium or sodium iodid, it would be interesting to tell whether such salts were readily capable of passing through the choroid plexus. That would give us a distinct clue or, at least, an explanation of the failure of large molecular bodies to pass through the choroid plexus. In other words, it would explain the failure of salvarsan to do so.

DR. WILE said that they had used calomel which was put up by Parke, Davis & Company in equal strength. He was not prepared to make any statement as to its therapeutic value, but *a priori* one could use calomel in very high concentration. He used 7 per cent. calomel ointment.

DR. SCHAMBERG said that calomel contained 85 per cent. mercury. In a mercurial ointment, if equal parts of calomel and lard with mercury were used, from 50 to 85 per cent. would be the result, and because of that fact less absorption through the lungs with calomel took place. Personally he had used 45 grains of calomel to the inunction. That will give about the equivalent to the one dram of mercurial ointment.

# THE COOLIDGE TUBE IN THE TREATMENT OF NON-MALIGNANT DISEASES OF THE SKIN \*

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During the past thirteen years I have used the Roentgen ray in the treatment of various diseases of the skin. It is only during the past eighteen months, however, since I began to use the Coolidge tube, that my work with the Roentgen ray has given me any real satisfaction. Before adopting the Coolidge tube, my apparatus consisted of a static machine and tubes of uncertain and varying hardness with no meters or means of measuring or standardizing the dosage. With this unscientific apparatus the results were in general unsatisfactory, though in a few cases surprisingly good. While realizing for a long time that the Roentgen ray was a valuable therapeutic agent for skin diseases, I felt that without proper standardization its employment was always attended with considerable danger. At all events, I felt that I could not use it in large doses or as a routine measure with entire safety. With the new apparatus and technic, my opinion of Roentgen-ray therapy has entirely changed, and I may add that I have never made a change in therapeutic measures that compares in satisfaction with the change from the old to the new method of using Roentgen rays.

Like a number of my dermatologic colleagues, I have followed the technic elaborated by Dr. George M. MacKee, and wish to thank him for his personal aid and advice in my work. It may be a satisfaction for others like myself to learn that this new work is not difficult to acquire, and an extensive knowledge of radiology is unnecessary. The apparatus which has been used during the past eighteen months consists of a two-kilowatt transformer, fed by a 220-volt direct current, a Coolidge tube with its step-down transformer, a milliamperemeter, rheostat, etc. In practically every case the treatment has been given with the patient in a recumbent position on a low wooden table. A metal table was used at first, but discarded after the tube had been punctured by accidental contact with the metal of the tube stand.

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In standardizing the apparatus, which was kindly done by Dr. John Remer, a tube distance of 3.5 inches from bulb to skin (7 inches from anode to skin) was arbitrarily chosen. Using 3.5 milliamperes of current, a 7-inch parallel spark gap and the rheostat at a certain button (8th) it was found that an exposure of one minute, using a stop watch, gave a quantity of Roentgen ray of 1 unit measured by the Holzknecht radiometer. In using MacKee's technic, the pastille is placed on the skin and in speaking of 1 H. unit the words "skin distance" should be added. One H. unit obtained in this way is equivalent to 4 H. units when the pastille is placed midway between the tube and the skin. In this article when speaking of H. units or fractions thereof the words "skin distance" will be understood.

On account of the impossibility (due to the war) of obtaining a Holzknecht radiometer, it has been necessary to work without this instrument. In spite of this handicap my Roentgen-ray work has continued without any severe reactions, except in two cases in which large doses had been intentionally given. On account of the remarkable constancy of the Coolidge tube, it has been possible to treat cases of acne and eczema, for instance, in a routine manner, without the slightest uneasiness about the production of untoward results.

While the title of this paper refers to the Coolidge tube alone, my purpose is to advocate the use of measured dosage in Roentgen-ray therapy, the Coolidge tube being used, as it greatly assists in attaining this object. Indeed it is due to the remarkable constancy of the Coolidge tube that it has been possible to standardize my apparatus and dispense with the use of a radiometer. I appreciate, however, the value of using a radiometer and would certainly have employed the Holzknecht instrument for massive doses during the first eighteen months if it had been possible to obtain one. It is for this reason that the treatment of ringworm of the scalp by massive doses has not been undertaken, as in this disease the greatest possible accuracy in dosage is necessary. One of the greatest advantages of the Coolidge tube is that treatments can be given approximately in one tenth of the time consumed in using some of the old fashioned tubes. In spite of its great power it is entirely safe, owing to the constancy of its vacuum. It is, furthermore, very durable, lasting for years, and not being as liable to puncture as other tubes.

When using the Coolidge tube it is only necessary to measure (by the milliampere meter and the spark gap) the quantity of Roentgen ray, it being entirely proper to dispense with the apparatus (qualimeter) to determine the quality of the ray. There is another point about the Coolidge tube which has not been understood by some dermatologists. While the rays from this tube are very penetrating, they



can be so perfectly controlled that the tube is entirely safe and proper to use in superficial conditions, such as nonmalignant conditions of the skin. In spite of enthusiasm over my newly adopted technic, I am perfectly willing to admit that a few of my colleagues who have used the old fashioned methods, have attained splendid results and can use their apparatus with apparent safety. I feel, however, that in the future Roentgen-ray therapy should be practiced with every possible safeguard, which includes methods of measuring doses and using a Coolidge tube. We can then speak of treatment by units or fractions of units of a certain definite scale instead of talking about giving treatments of "ten minutes each at six inches from the skin," which conveys no real idea of the amount of Roentgen ray that has been used. I feel certain that the next generation of Roentgen-ray therapists will all adopt the newer methods of treatment and think it likely that before long the question of having used the safer technic may have a medicolegal bearing in cases of Roentgen-ray burns.

In regard to the various diseases of the skin that were treated, the best results were probably attained in eczema. This was particularly gratifying, as previous to the introduction of the new technic I had never treated any cases of eczema with the ray, and was somewhat skeptical about the reported results of others. All types of eczema were treated, except very acute ones with vesicles or edema. The cases varied from papular or vesicular eruptions of two weeks' duration to chronic thickened patches of thirty years' duration. Sixty cases in all were treated, of which thirty-one cleared up in a most gratifying manner, some of the results being strikingly good. In nine of these cases the eruption affected the palms or soles and cleared up much more rapidly than after any other treatment with which I am familiar. Two of the very favorable cases of eczema were children of 4 and 2.5 years, respectively. The results in four cases of eczema of the vulva and neighboring region were astonishingly good. A fine result was also obtained in a case of eczema of the scrotum of thirty years' duration, which had resisted all other methods of treatment. After a second treatment the itching was greatly relieved and the eczema was practically well after six treatments of 0.5 H. In sixteen cases the lesions were either entirely cleared up or greatly improved, but later relapsed to a greater or less extent. In many of these the relapsing lesions again disappeared shortly after treatment. In ten cases the results were indefinite, as the patients did not continue treatment long enough or with sufficient regularity. Three cases failed to respond to Roentgen-ray treatment after it had been given a fair trial. The dosage of Roentgen ray in the majority of cases of eczema was 0.5 H. at weekly intervals, treating as a rule no more than six separate areas

at one sitting. In one extensive case, however, eighteen areas were treated at one sitting. As a rule most of the patches of eczema were cleared up by three or four treatments of 0.5 H. each.

My experience with the Roentgen ray in psoriasis was in the main disappointing. The lesions themselves were easily cleared up, but they returned with discouraging frequency. The Roentgen ray appears to be especially useful for lesions of the hands and face where chrysarobin is objectionable and for localized patches of psoriasis. It is, however, in my opinion a less valuable remedy than chrysarobin for the treatment of psoriasis. Its value in psoriasis is certainly below that in eczema. Of nineteen cases of psoriasis treated, the results in eight were distinctly favorable. In one case there was no relapse at the end of a year, and in another none at the end of ten months. In another case a patch on the elbow, of fifteen years' duration, disappeared in four days after one massive dose of 1.5 H. In another case a patch on the abdomen which had been resistant to chrysarobin ointment (vigorously applied and covered by rubber cloth) disappeared after five treatments of 0.5 H. One case of psoriasis of the palms showed gratifying improvement. Five cases, one of which had received twelve and another seventeen treatments, showed temporary improvement, but frequent relapses. In six cases the results were unsatisfactory on account of sufficient or irregular treatments. In one case a severe dermatitis followed the very unwise plan of attempting to hurry the treatment to accomodate the patient, whose sojourn in town was short.

In six cases of seborrheic eczema, four showed excellent results. One patient presented lesions of six months' duration on the glans penis. They disappeared entirely after five weekly treatments of 0.5 H. units.

The results obtained in acne were highly satisfactory, forty cases having been treated. In twelve cases the action of the ray was most gratifying, all of the lesions clearing up completely or nearly so by treatment with the Roentgen ray alone. All of these cases exhibited better results than could have been attained, in my opinion, by other methods of treatment, such as soap frictions, curettage, sulphur lotions, vaccines, etc. These cases were given an average of nearly eight exposures and generally showed the first decided improvement shortly after the fifth treatment. The dosage was 0.25 H., at weekly intervals. In twenty-four cases the results were very good, certainly equal to those obtained by other methods. Of the four remaining cases, two were entirely refractory to treatment and two others discontinued their visits too early. All types and grades of severity were treated, the severer cases naturally showing the more striking change in appearance. From my personal experience I now consider the Roentgen ray

as the most efficient agent for the treatment of acne, and with the modern measured dosage, do not hesitate to treat any case of acne, whether occurring on the back of an older person or the face of a young girl.

Six cases of rosacea were treated, all receiving 0.25 H. units at weekly intervals. Three of them received five treatments with no benefit whatever. Three other cases receiving five, six and eight treatments, respectively, showed some improvement. Two of these were of the pustular type, whereas the first three, showing no improvement, were of the erythematous type.

Of seven cases of lichen planus treated, five were of the ordinary and two of the hypertrophic type. In the first mentioned group the result of treatment was very satisfactory, the Roentgen ray not only stopping the itching, but causing a gradual disappearance of the lesions. Indeed, the Roentgen ray appears to me to be the only local remedy that causes involution of lesions of ordinary lichen planus. Other local remedies do no more than stop itching. One of the two cases of hypertrophic lichen planus responded favorably to treatment, two markedly elevated lesions (one of them  $\frac{3}{4}$  inch) being entirely flattened by the Roentgen ray. The result in the second case was not satisfactory, in spite of pushing the treatment till a well marked erythema had been obtained.

Roentgen-ray treatment of five cases of lichen circumscriptus was extremely satisfactory. One patient presented circumscribed, infiltrated patches on either side of the vulva and inguinal region, the larger patch measuring 5 by  $2\frac{1}{2}$  inches. They had existed for five years. After a single treatment of 1 H. unit, the lesions gradually cleared up, and one month later there was no trace of the former lesions except a slight pigmentation.

Five cases of sycosis were treated with good results. In one case, a man aged 70, the eruption had existed continuously, according to his statement, for fifty years. He was given fractional doses of Roentgen ray, receiving altogether 5.75 H. units in the course of four months. At the end of this treatment the skin was entirely normal and has remained so up to the present (four months). The cases of sycosis were treated by 0.25 H. units, increasing to 0.5 H. when necessary. Two cases of folliculitis of the neck were treated with distinctly poor result.

Three cases of pruritus cutaneus were treated. In one case there had been distressing itching of the vulva and anus for four years. Four days after a single treatment of 1 H. unit the itching stopped almost entirely. Ten weeks later she was given another massive dose, and for the past nine months she had been entirely free from pruritus.

Two other cases of simple pruritus of the trunk and extremities were favorably affected. The antipruritic effect of the Roentgen ray is of course well known, itching often stopping on the second or third day after treatment in cases of eczema, psoriasis, lichen planus, etc.

Two cases of paronychia were treated, one of them showing some improvement. Unsatisfactory results were obtained in two cases of verruca vulgaris (one case involving the nail), four cases of dermatitis herpetiformis, one case of hypertrophic scar and one of extensive sarcoid. The case of sarcoid consisted of a dozen lesions involving the face, trunk and extremities. The patient was treated with the Roentgen ray at a time when a diagnosis of mycosis fungoides seemed probable and before the disease had been proved microscopically to be sarcoid. During three months a total of 2.25 H. units were given to the lesions of the face and upper extremities, and a total of 3.125 H. units to the lesions of the trunk. The same lesions were later treated by carbon dioxid snow with favorable result.

In conclusion, I cannot urge too strongly the adoption of a system of measured dosage and the use of the Coolidge tube in Roentgen-ray therapy. The Coolidge tube is constant, safe, rapid and durable, and is eminently suited for treating superficial conditions, such as non-malignant diseases of the skin.



# Society Transactions

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## NEW YORK DERMATOLOGICAL SOCIETY

*Regular Meeting, Dec. 19, 1916*

JAMES C. JOHNSTON, M.D., *President*

### LYMPHANGIOMA CIRCUMSCRIPTUM. PRESENTED BY DR. TRIMBLE

The patient was a young girl, aged 14 years, of Russian parentage, born in the United States.

On the outer side of the right thigh, over an area about the size of the hand, were a number of lymph vesicles, ranging in size from a pinhead to a split pea. There were also numerous telangiectases and minute angiomas. The area affected was thick and brawny to the touch; the condition had existed since early infancy.

#### DISCUSSION

DR. CLARK said that it was a typical case, though not appearing in the usual location. Most of the cases he had seen developed around the neck or on the body.

### LEUKODERMA PSORIATICUM. PRESENTED BY DR. HEIMANN FOR DR. FORDYCE

This was presented as a possible case of leukoderma psoriaticum in a girl of 18, who had had psoriasis for a year and a half. The leukodermatous spots had appeared on the back and had persisted without change in the condition of the lesions nor in the depigmentation. The main thing to be considered differentially was the depigmentation that followed the use of chrysarobin. The case was presented with the diagnosis in question, with all due reservation.

#### DISCUSSION

DR. WHITEHOUSE said that it impressed him as being simply a contrast between the hyperpigmented skin and the other, perhaps as the result of the application of the chrysarobin to the psoriasis, and that a few weeks might eliminate it. The patch of psoriasis then present would seem to bear that out, and probably eventually the pigment would be distributed normally over the skin and be restored entirely.

DR. SHERWELL agreed with Dr. Whitehouse that it was simply a temporary condition due to the use of chrysarobin.

DR. HOWARD FOX thought the patient simply presented the appearance of a psoriatic who had been successfully treated by chrysarobin.

DRS. TRIMBLE AND SCHWARTZ agreed with the previous speakers.

DR. HEIMANN said that it was rather a difficult thesis to defend. The case was presented first because there was room for conjecture as to whether it was a case of pigmentation following the chrysarobin or whether it was actually one of psoriatic leukoderma. It was six or seven weeks since the patient had used the chrysarobin, and during that period she had been under observation, and there had been no change in the condition. There were never any signs of inflammation in the white areas, such as one would have after the application of chrysarobin, and no history of having recently used chrysarobin; so that it seemed fair to regard it as psoriatic leukoderma. The question could

be decided definitely only after long observation, and he would present it again later.

LUPUS VULGARIS TREATED BY ROENTGEN RAY. PRESENTED BY  
DR. CLARK

Dr. Clark said that having done a great deal of work with the Kromayer light, he had come to realize that there were certain cases of lupus vulgaris in which the light was absolutely ineffectual—that is, the granular, nodular, rather thick type, where the tissue resembled granulation tissue. In this instance the patient had lupus vulgaris lesions on the cheek, which were treated by the Kromayer light and which disappeared. Eighteen months later the patient reappeared with a very extensive lupus vulgaris of the nose, involving the sides, tip and nasal orifices. She was given a single massive dose of the Roentgen ray, and the results were very good, as could be seen. In this type of lupus vulgaris the Roentgen-ray treatment was more satisfactory than any other.

Some time later the patient presented a very active granular lupus vulgaris on the border of the lips, on the mucous membranes of the inner surface of the lips and the gingival mucous membranes. This also was treated with a massive dose of Roentgen ray, and the condition was very much improved. The speaker said that according to his experience lupus vulgaris in this particular region was very difficult to cure, but he had reason to believe that if this lesion received another massive dose of Roentgen ray, it also would disappear. It was already 70 to 80 per cent. better than when first seen.

DISCUSSION

DR. WHITEHOUSE said that the result of the Roentgen-ray treatment was very satisfactory, and he did not know of any better way of treating that condition of the gums. It was certainly very gratifying to get such a result.

Referring to the Kromayer light, the speaker said that he had had a patient with a lesion on the forearm which acted in the same manner under the Kromayer lamp. The lesion had disappeared entirely, rather to his surprise. It was about six or eight weeks before the scab fell off, and some three or four weeks later before it paled out, leaving only a scar. In certain types of lupus vulgaris, the Kromayer quartz lamp was very effective.

DR. CLARK, replying to Dr. MacKee, said that the patch on the cheek was treated with two applications of the Kromayer lamp, but that the condition on the cheek was very different from the lesion on the mucous membrane and the nose. It was much more superficial, with a few superficial nodules around the edge and scattered through the patch. The patch on the nose and the gingival mucous membrane was distinctly granular in type, and on such lesions the Kromayer light had not produced any effect. The Roentgen-ray dosage to the mucous membranes was a scant two units. The patient had a very sore face, and it was a question as to whether the mucous membrane would not slough over the gum, but the inflammation subsided. In the face of this result, he felt justified in giving the patient a slight modification of the former dosage with the upper lip pinned back, to see if the remaining lesions on the gingival mucous membranes could be cleared up. The lesion went through the usual course of blister and crust, the crust disappearing in six weeks. At the end of that time another application was made, and that healed in the same manner. The application was made with a two millimeter blue filter with a practically new arc. That factor was very important in the Kromayer light applications. The quartz arc clouded very quickly, and it had to be renewed several times a year. The speaker said that when he was treating a great many clinical cases he discovered that the least cloud on the quartz arc would diminish the number of ultraviolet rays tremendously. There would be just as much reaction, but you would not get the result from the violet rays.

GUMMATA APPEARING IN PSORIATIC PATCHES. PRESENTED BY  
DR. WISE FOR DR. FORDYCE

John C., laborer, aged 34, was born in the United States. The patient had been married six years and had three children. One died at three months, of bronchitis, the others were healthy and well.

On his right arm there was what appeared to be a typical eruption of psoriasis guttata; on the inner aspect of the left arm was an unbroken gumma, the size of an olive, the overlying skin being purple and scaly. Close to this, and in marked contrast, was a circular, non-infiltrated, pale red, scaly eruption—a typical psoriasis patch. On the anterior surface of the left forearm, extending from the bend of the elbow to an inch above the wrist, was a pale red eruption of irregular outline, consisting of two large palm-sized patches, connected by an intervening bridge of diseased skin. This eruption was characteristically psoriatic. The upper border of the eruption was distinctly infiltrated, and within it was a gummatous ulcer the size and shape of a lima bean. On both patches of psoriasis were thick, finely adherent, grayish black scales, under which syphilitic ulceration was apparent.

## DISCUSSION

DR. KINGSBURY said that judging from the appearance of the forearms with the gummatous infiltration, the condition seemed to be all syphilis; but that the lesions on the other arm and on the scalp seemed to indicate that the man was a syphilitic psoriatic.

DR. POTTER agreed with Dr. Kingsbury that the patient was both syphilitic and psoriatic. Looking at the forearm alone, one might think it to be all syphilis; but on examining the body it was quite evident that both psoriasis and syphilis existed.

DR. WHITEHOUSE agreed with Dr. Wise's conception of the case that two diseases were present.

DR. CLARK said that it was very interesting to see the modification of the superimposed disease. It was apparently an old psoriasis with a superimposed syphilis.

DR. WINFIELD told of an interesting case which he had under observation a few years ago. The patient was a psoriatic who contracted syphilis. The psoriatic lesions became more indurated. He recovered entirely from the psoriatic attack after the administration of salvarsan.

## SYRINGO-CYSTADENOMA. PRESENTED BY DR. CLARK

The patient was a man, 44 years of age, born in the United States. When he was a youngster, he first noticed some spots on his body. On presentation they appeared as little, round, pinkish or flesh colored papules, and none had ever disappeared. They were firm nodules, varying in size from pin head to pea size, appearing mainly on the chest, arms and neck. They had not produced subjective symptoms. The patient said that an older sister had the same lesions on the chest and neck.

## DISCUSSION

DR. CLARK said that this was evidently the same condition shown by Dr. Fox's patient at the last meeting, and was the third case of the kind he had ever seen.

DRS. WINFIELD, WHITEHOUSE, FOX AND WISE agreed with the diagnosis.

DR. MACKEE agreed with the diagnosis of the so-called syringocystadenoma, but said that if the lesions were studied microscopically, one could not distinguish between them and benign cystic epithelioma. When the lesions occurred on the body they were usually called syringocystadenoma, and when they appeared on the face they were termed benign cystoma.



Referring to the treatment, he said that at present they had a patient under Roentgen-ray treatment at the Vanderbilt Clinic. The lesions had flattened down to the level of the skin after four treatments, each of one unit. She would probably not require any more treatments. He therefore suggested Roentgen-ray treatment of this case.

LARVA MIGRANS: PRESENTATION OF PHOTOGRAPHS. BY DR. HOWARD FOX

The recent case of larva migrans presented by Dr. Whitehouse had aroused interest in this subject. The speaker had lately seen a case in a soldier who had returned from the Mexican border. Under ordinary circumstances he would not have thought of the possibility of creeping eruption. The patient presented an elevated, urticarial, irregular, linear lesion on the back, about three-quarters of an inch in length. About half an inch from one end of this lesion was another little pinhead urticarial spot, which was doubtless the beginning of a second burrow. In view of Dr. Whitehouse's experience, the patient was given epicarin ointment, which had failed to effect a cure at the end of two weeks. The speaker presented a photograph kindly sent by Dr. Kirby-Smith of Jacksonville, of a man with a large number of lesions scattered over the back. A second photograph of a characteristic linear lesion on the ankle was shown through the courtesy of Captain McCullagh of Squadron A. In the first case the eruption had existed eight days; in the second, about two and a half months. For the treatment of the disease, Dr. Kirby-Smith recommended as the most efficient procedure, shaving the affected epidermis with the body of a sharp scalpel and then applying iodine or carbolic acid. Much less efficacious methods were high frequency sparks and freezing with carbon dioxide snow. Excision of the spreading burrow was the method of treatment suggested by Dr. Frank C. Knowles in a personal communication.

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CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, Nov. 21, 1916*

UDO J. WILE, M.D., *President*

NEVUS. PRESENTED BY DR. PARDEE

The patient was a baby, 4 months old. The lesion extended from behind the left ear forward on to the cheek. The color was distinctly yellowish, did not disappear on pressure and showed no telangiectasis. That there were dilated capillaries connected with the lesion was, however, evident as it became considerably redder than the surrounding skin when the child cried. It resembled the description given by Crocker of "milium congenitale" but lacked the surrounding comedones mentioned in his case.

MULTIPLE SARCOMATOSIS CUTIS. PRESENTED BY DR. ORMSBY

The patient was a man, aged 52 years. He had had the disease for four months. The first lesion appeared on the lower right thorax. It began as a bluish-red spot, which gradually enlarged and became a tumor. This was rapidly followed by many tumors over the entire body. It was thought to be due to drinking water. There was no subjective sensation.

The patient was a pale man, showing debilitation. On the right side of the abdomen, just above the umbilicus, was the original tumor, dollar-sized, elevated, round, hard and yellowish-red in the center with a red periphery. Numerous other tumors were scattered everywhere. Over the back were closely-set, bluish-red areas, in all stages from mere macules to beginning tumors. There was adenopathy in all groups. The tonsils were somewhat enlarged. The blood examination showed: leukocytes, 6,800; hemoglobin, 70 per cent.; blood



pressure, 98, Tycos, sitting; temperature, 98.5 F.; urine, negative. Wassermann test negative.

A well developed tumor was removed from the upper left back on November 10; the wound was dressed and the stitches removed November 14. The incision was completely healed on November 17. Examination corroborated the clinical findings.

#### DISCUSSION

DR. PUSEY believed the case to be one of multiple sarcoma, but was struck with the unusual red appearance of the lesions and the peculiar mottled appearance of the patient's skin—almost like a roseola. He had seen multiple sarcoma of the skin with numerous subcutaneous tumors which gave the surface a mottled appearance, but he had never seen such a roseola-like appearance as this case showed. The microscopic picture was, of course, that of sarcoma.

DRS. McEWEN, SHAFFNER AND BAER thought it was a sarcoma.

#### SPOROTRICHOSIS. PRESENTED BY DR. MOORE

The patient was a boy, aged 13 years, who was bitten on the index finger of his left hand by a field mouse, early in September, 1916, while in North Dakota. The wound healed readily. About three weeks later the first phalanx of this finger became swollen, reddened, firm but not very painful. Two weeks later the swelling "came to a head" and discharged a fairly large amount of yellowish pus.

About October 19 a nodular swelling was discovered 5 cm. above the wrist on the radial side of the forearm. A physician enlarged the opening on the finger and applied wet dressings. The condition did not improve but on the contrary the nodular swellings increased in number.

On November 5 he called on Dr. W. K. Yeakel, who sent him to the speaker for cultures. Cultures were made by Dr. D. J. Davis and Dr. Moore on November 6, and contained good growths of the sporothrix Schenckii, on November 11. On November 11, some yellowish honey-like pus was aspirated from the large nodule just above the wrist and pure cultures of the same organism were obtained in three days. Agglutination tests were positive in 1:160 dilution with homologous and heterologous organisms, including strains from France (sp. *Beurmannii*) and one isolated from a horse. Complement fixation tests were positive with antigens prepared from the same strains.

On examination on November 13, there was an irregular ulcer with undermined edge on the palmar surface of the index finger, which was swollen and reddened. Fifteen or more small, subcutaneous nodules were seen, commencing 2.5 cm. below the wrist on the dorsum of the hand and extending along the radial lymphatics to about 12.5 cm. above the elbow, varying in size from 0.5 to 2.5 cm. Most of them were firm but a few were softened, the latter having a bluish color. The lymph glands were not involved.

The patient had had no general symptoms, the temperature being normal; the white blood count was 10,500 with a normal differential picture. He was then receiving 30 gr. of potassium iodid, daily.

#### DISCUSSION

DR. McEWEN thought it was unusual for the case to show such little evidence of inflammation. In other cases he had seen the nodules had been red.

DR. PUSEY regretted that there was no smear or culture shown with the case. He thought the glands would break down.

DR. ORMSBY was much interested in the case because of the fact that the last work Dr. Hyde did was on such a case, also from North Dakota. In his opinion the record of this case by Dr. Hyde and Dr. Davis established many important facts concerning American cases of sporotrichosis.

## ALOPECIA AREATA ASSOCIATED WITH LUPUS ERYTHEMATOSUS. PRESENTED BY DR. SHAFFNER

The patient was a young man, aged 26 years, who had had the trouble for three years. He presented typical patches of lupus erythematosus on the cheeks and several areas on the scalp. Further, he had areas of various sizes and shapes of total baldness on the scalp, the scalp in these areas being apparently normal. The patient stated that hair had grown and fallen out in these patches at various times.

He presented a perforation of the septum pronounced by a rhinologist to be idiopathic, neither tuberculous nor syphilitic. His Wassermann and history were negative as to lues.

## DISCUSSION

DR. McEWEN believed it was a combination of lupus erythematosus and alopecia areata. The linear arrangement of some of the lesions did not necessarily argue against alopecia areata since such a condition could arise from the merging of a number of small areas which happened to be in alignment.

DR. PUSEY thought the patches were not alopecia areata. He considered the lupus erythematosus sufficient to account for the whole picture, and thought the fact that there was not much scarring did not matter.

DR. HARRIS thought the fact that the hair reappeared did not agree with lupus erythematosus and asked how the alopecia could be explained under those circumstances. He thought the lesions on the cheek and some of those on the scalp were lupus erythematosus and the other scalp lesions he considered alopecia areata.

DR. WILE was inclined to agree with Dr. Pusey that lupus erythematosus could account for the whole thing.

DR. SHAFFNER considered the case to represent two distinct conditions, alopecia areata and lupus erythematosus. The areas on the face were typical lupus erythematosus as were several red, atrophic patches on the scalp. The patches of alopecia and normal skin with baldness on the scalp were probably alopecia areata.

## LUPUS ERYTHEMATOSUS IN A LUETIC. PRESENTED BY DR. POTTHOFF

This case was shown by Dr. Ormsby at the October meeting and was exhibited again to show the lack of benefit derived from antisyphilitic treatment.

The syphilitic history dated back eighteen years. One or two years ago the patient had an eruption on the ears which spread to the face, areas over the zygomatic process and malar bones, also over the nose, involving the bridge and alæ. The lesions were covered with dirty-grayish, adherent scales, irregular in shape and slightly elevated. This patient had received intensive syphilitic treatment for the last two months and showed very little improvement in the lesions.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. E. P. ZEISLER

The patient was a young woman, aged 29 years, who had had an eruption for a year and two months. According to her statement it grew worse either before or after the menstrual period. The eruption itched severely for a few days and then the itching disappeared. It was quite inflammatory at the time of menstruation. It was apparently a purely macular eruption and had never faded during the year and two months.

The possibilities to consider in this case were the premycotic stage of mycosis fungoides, dermatitis dysmenorrhœica (Polland) and a parakeratosis variegata.

## DISCUSSION

DR. FOERSTER thought it resembled the case described by Kreibich in connection with menstruation.

DR. McEWEN believed the diagnosis was a beginning mycosis fungoides.

DR. SHAFFNER thought in view of the fact that the lesions had been present for three or four years, with several remissions and that the patient had had her menstrual periods delayed until she was 20 years old, that the case was one of dermatitis dysmenorrhœica, recently described abroad.

DR. HARRIS had seen the case twice before, once about a week after her menstrual period. She had had an attack three years ago and then was free for a time but then had had the trouble for a year and two months. When he saw the patches they were distinctly elevated, brownish-red in color, some of them were vesicular at times, but he had not seen them in that condition. He considered it the same picture that was seen in erythema multiforme and did not know whether it belonged to the dermatitis dysmenorrhœica group or not. The lesions left a very distinct pigmentation and he did not think they were self-inflicted. She had a lesion on the side of the mouth when he first saw her.

DR. ZEISLER said he had seen the case on two occasions and the patient had been studied carefully from the internist's standpoint, at Wesley Hospital, with no definite conclusions. He thought the exacerbation at the time of the menstrual period was simply accidental. In their office they were impressed with the case as being an early one of mycosis fungoides.

DR. ORMSBY was interested in the question of dermatitis dysmenorrhœica, for the reason that he had gone over the literature a year or two ago and concluded that most of these cases were factitious. This case did not have the appearance of being factitious, nor did it correspond to the description of dermatitis dysmenorrhœica, and he was at a loss to make a diagnosis. There seemed to be some connection between the eruptive symptoms and the menstrual epoch.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. HARRIS

The patient was a young woman, aged 23 years. She had scarlet fever at the age of 12, and two and a half years later developed a condition inside the nose which caused crusting and interfered with breathing. Three years later the external lesions began as painless lumps in the skin. In two months these ruptured, discharging pus. The ulcers healed in a month under local treatment and cod liver oil. There was perforation of the cartilaginous septum. The Wassermann test was negative.

## DISCUSSION

DR. ORMSBY stated that within the past two or three years he had seen a patient with an identical lesion on the side of the nose which had impressed him as being syphilis, but after watching it there was no doubt that the diagnosis was lupus erythematosus.

DR. SIMPSON believed the lesions on the nose to be lupus vulgaris.

DR. HARRIS thought the case looked like syphilis but the Wassermann was negative and treatment with salvarsan had had no effect on the lesions.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. ORMSBY

The patient was a man, aged 28 years, who presented a generalized eruption of three weeks' duration. The lesions were generally distributed, and occurred as well-defined, oval and round areas of dermatitis, resembling in many situations the lesions of pityriasis rosea, and in others those of seborrheic dermatitis. Neither disease was truly represented. The lesions were more red and scaling different from that of the typical pityriasis rosea lesion, and

they did not present the greasy scaling normally seen in dermatitis seborrheica. They presented a type seen during the past two years in a number of cases that were difficult to place clearly in any catalogue.

#### DISCUSSION

DR. PARDEE believed the case was one of pityriasis rosea.

DR. SIMPSON considered the case one of so-called herpes tonsurans maculosus. The involvement of the axilla and crural region made him think this should be the diagnosis. He thought there were two types of cases; one corresponding to pityriasis rosea and one to herpes tonsurans maculosus.

DR. HARRIS was much interested in the case because it was so like other cases that had been shown and diagnosed as pityriasis rosea or seborrheic dermatitis. This case showed a spot in the axilla which looked like an eczema which was almost ready to weep. He had seen cases clear up under sulphur and ichthyol, after three weeks.

DR. BAER thought the case was a seborrheic dermatitis.

DR. SHAFFNER considered it a case of pityriasis rosea.

DR. McEWEN did not believe it was a pityriasis rosea, but did consider it as probably a parasitic affair.

DR. PUSEY thought the diagnosis in such cases rested between pityriasis rosea and seborrheic dermatitis, and that in such border line cases a differential diagnosis might be impossible. He had no doubt that the diagnosis lay between the two.

DR. FOERSTER said that at the Paris Congress in 1900, the French called all such cases pityriasis rosea while the Vienna school called them herpes tonsurans maculosus.

DR. WILE thought that if the lesions had no tendency to confluence no one would hesitate to call the case pityriasis rosea. He recalled a case which he had reported several years ago, in which vesicular lesions, on clearing up, proved to be a pityriasis rosea. They involved not only the skin but the mucous membranes. He thought that we should get away from the idea that all lesions are necessarily typical. He considered the case an atypical pityriasis rosea.

DR. E. P. ZEISLER said that they had recently observed an identical eruption in a physician who had made a diagnosis of syphilis on himself and had given himself two injections of salvarsan. As the injections had no effect on the eruption he took the trouble to find out what it really was and learned that he had a pityriasis rosea.

DR. ORMSBY stated that the patient had had a sulphur ointment for one week and there was no change, except that the lesions appeared to be irritated and showed no tendency to clear.\*

#### TUMORS FOLLOWING INJECTIONS OF VASELIN. PRESENTED BY DR. ORMSBY

The patient was a man, aged 36 years, who had had the disorder for eight years. Chesebrough's white vaselin had been injected to fill depressions in the face, eight years ago, in Los Angeles. The first changes noted appeared between two and three years after the injection.

Each cheek beneath the eyes was the seat of nodules of various sizes. There was slight discoloration over the areas and marked infiltration. No telangiectatic vessels were present as yet, and there were no subjective sensations.

#### DISCUSSION

DR. PUSEY thought the case was very interesting and that it was not merely the vaselin but the irritating effects of a foreign material. He thought some-

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\* One week later, the entire eruption cleared under the same treatment.



body ought to make a scare-head of this subject in the newspapers and send the fellows who did such things to the penitentiary.

DR. ORMSBY said that such cases as the result of paraffin injections were not very rare, but he thought that this was the first vaselin case which had been shown here. The work was done in California, and the woman who did it had injected a number of patients. Another interesting feature was that the paraffin cases commonly began to develop in from five to fifteen months following the injection, but in this case the nodules had not appeared until three years after the vaselin had been injected.

#### CASE FOR DIAGNOSIS. PRESENTED BY DR. HARRIS

The patient was a young man, aged 31 years, who presented localized reddening of the upper lip and chin.

#### DISCUSSION

DR. ORMSBY thought the case was a very mild seborrheic dermatitis.

DR. PARDEE was much interested in this because he had an identical case. The lesions were practically the same as this man's but in his case the subjective symptoms were much more severe. It never developed anything like a sycosis and had nothing whatever to do with a seborrheic condition, which had cleared up in his case.

#### NEVOID KERATODERMIA. PRESENTED BY DR. ORMSBY

The patient was a young man, aged 20 years, who presented areas of marked keratosis on the palms and soles. The lesions, while chiefly on the palms and soles, were not limited to these regions, as a few nevus-like papules were grouped about the hips and on the anus. In addition to plaques of extreme hyperkeratosis on the palms and soles, there were lines of nevoid papules extending over the palms. The extreme development of the lesions rendered walking practically impossible and the hands also were nearly useless. The patient was undeveloped, and appeared much younger than his years indicated.

There were no other members of the family affected.

#### DISCUSSION

DR. PUSEY considered it a case of congenital keratoderma, differing from typical cases in that it was not so extensive as was usual. He had seen all degrees of such conditions. It looked exactly like nevus hystrix, and he thought it was not different except for the unusual location of the lesions.

#### CASE FOR DIAGNOSIS. PRESENTED BY DR. STILLIANS

The patient was a woman, aged 37 years, who had had a lesion on the back of her right hand for twenty-three years. There were no subjective symptoms and no similar lesions on her body. She was under treatment for syphilis of seven years' duration.

The patient exhibited a linear lesion extending from the base of the right index finger almost to the wrist and which was composed of hard, flat papules, confluent at the center of the lesion and discrete at the ends, somewhat hyperkeratosis at the top. The lesion was very slightly reddened except when irritated by her occupation of scrubbing.

#### DISCUSSION

DR. ORMSBY considered it an example of hypertrophic lichen planus.

DR. HARRIS did not know whether it was a lichen planus or a linear hyperkeratosis.

DR. STILLIANS thought it was a lichen planus but was not sure, because no typical lesions of lichen planus were to be found.

## DERMATITIS FACTITIA. PRESENTED BY DR. STILLIANS

The patient was a young woman, aged 23 years, who was operated on about a year ago for tumors of the peritoneum. She had complained for five months of a burning and swelling in the left breast with hemorrhagic spots which ruptured after a few hours and discharged blood or bloody serum. She claimed to have had a temperature of 101 F. or 102 F. on several occasions before these lesions appeared and always to have felt drowsy for a day or so beforehand. She had an area of brownish discoloration on the upper half of the left breast, extending beyond the median line, and just above the nipple an excoriated area about an inch and a half in diameter. There was an anesthesia of the pharynx and tremor of the lids when closed, but no limitation of visual fields or areas of anesthesia were found on examination.

The lesion at the time of first examination was dry. The patient was given a microscopic slide and asked to make a smear of the discharge from this lesion. This smear on examination showed a few blood cells with an immense number of bacteria of various kinds.

## DISCUSSION

DR. FOERSTER thought the lesion was distinctly self-inflicted. It had all the characteristics of a friction excoriation.

DR. SIMPSON believed it was entirely self-inflicted.

DR. STILLIANS suspected that the lesion was self-inflicted when the patient first presented herself and his suspicion was confirmed by the number of bacteria in the smear, which was possibly made from vaginal discharge.

## VERRUCOUS SYPHILID OF ARM. PRESENTED BY DR. STILLIANS

A teamster of 18 years had his first secondary symptoms two months before. On presentation, he showed a psoriasiform syphilid over the body, and on the left elbow a flat, verrucous lesion, two inches in diameter. The patient was quite cachectic at first, but had improved a great deal under treatment. His lesions were slowly regressing.

# Review of Dermatology and Syphilis

Under the direction of FRED WISE, M.D., New York

Assisted by

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## BRITISH JOURNAL OF DERMATOLOGY

(October-December, 1916, 28, Nos. 10-12)

Abstracted by I. ROSEN, M.D.

### LIVEDO RETICULARIS. H. G. ADAMSON, p. 281.

The author uses this term to distinguish local or limited blue colorations of the skin, from cyanosis or universal colorations. This condition is more often seen among dispensary patients than in private practice.

The anatomy is best explained by Renaut, who demonstrated the arrangement of the vessels of the skin by injecting Prussian blue. This produced rounded blue patches, separated by pale tracts. These pale tracts became colored on continuing the injection. Each of the little areas corresponding to the blue patches represents the base of a vascular cone, which is fed by a deep artery at its apex. These round areas Renaut styled areas of "maximum circulation," and the intermediate tracts were regions of reduced circulation. It therefore follows from this anatomic arrangement that active hyperemia will cause flushing of the areas of maximum circulation and so the red patches; and that a venous stasis will produce a dusky network (livedo reticularis), corresponding to the areas of reduced circulation.

Persistent and pronounced livedo annularis may be associated with various illnesses, especially tuberculosis or a tuberculous tendency. It may also be found in children with congenital syphilis, myxedema, and among mongolian idiots, scrofulous and rachitic children.

Of the reticulated livedo-like eruptions, or inflammatory livedo, we have the following forms: (a) Erythema ab igne and ephelis ab igne. (b) Livedo-like eruptions associated with rheumatism, visceral and nervous troubles, and with tuberculosis. (c) Livedo-like eruptions associated with syphilis. (d) Cases of Bazin's disease presenting a livedo-like pattern.

The author's conclusions are as follows:

1. The dusky marbling or network known as livedo annularis is a result of the tuft-like arrangement of the blood vessels of the skin.
2. It may occur in many normal children and young adults, and is exaggerated as a result of exposure to cold.

3. In departure from health due to tuberculosis, syphilis, rheumatism, alcoholism, hypothyroidism, etc., the normal livedo annularis may become exaggerated and persistent, as has been suggested from a toxic action on the splanchnic plexus.

4. In persons with persistent and exaggerated livedo, the position and pattern of the eruptions due to syphilis and tuberculosis may be determined by the livedo, so that the eruption assumes a network aspect and may be called "inflammatory livedo."

5. A similar inflammatory livedo, with subsequent pigmentation, may be produced by prolonged exposure of the skin to heat—livedo a calore.

6. The distribution and arrangement of certain eruptions, such as those of secondary syphilis, measles, parakeratosis variegata, is explained by the anatomic arrangement of the blood vessels of the skin which give rise to livedo annularis.

#### RADIUM TREATMENT OF LUPUS VULGARIS. PAUL HASLUND, p. 294.

The author states that in the majority of cases under his observation treated with radium, the results were not favorable. Even if an unquestionable improvement has been demonstrable in some patients, it took a long time before it occurred, or it was followed by retrogression, or absolute standstill, so that it was advisable to discontinue the treatment. In some cases it did not influence the disease at all.

In comparing the results with that of the Finsen light, the latter therapeutic measure is to be preferred in lupus vulgaris. The cicatrization after the radium treatment is much more pronounced than either after the light or Roentgen-ray treatments, even when undertaken with all the necessary precautions.

#### THREE CASES OF SO-CALLED MULTIPLE IDIOPATHIC HEMORRHAGIC SARCOMA. F. PARKES WEBER, p. 309.

Weber reports in detail three cases, all of them in Hebrews of the male sex, coming from Galicia and Poland. In none of the three cases was there apparently any gout, syphilis or alcoholism.

The author's opinion as to the cause of these tumors is some local microbic infection, the cutaneous lesions representing a tissue-reaction toward the unknown invading microbes. The peculiarity of the tissue reaction lies in the new formation of dilated capillaries and lymph spaces and the proliferation of the connective tissue elements, with usually very little evidence of inflammatory cell infiltration. It is interesting in this connection to point out that in several cases the outbreak of the disease had followed a trauma.

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### AMERICAN JOURNAL OF SYPHILIS

(April, 1917, 1, No. 2)

Abstracted by W. H. GUY, M. D.

#### THE PARASITOLOGY OF SYPHILIS. HIDEYO NOGUCHI, p. 261.

An article of such volume and detail as to preclude abstraction. The reader is referred to the original contribution.

#### A CONTRIBUTION TO THE ACTION OF VANADIUM WITH PARTICULAR REFERENCE TO SYPHILIS, WITH A CLINICAL CONTRIBUTION. FREDERICK PROESSER, HARVEY A. SEIL AND ARTHUR W. STILLIANS, p. 347.

The various salts of vanadium were studied by animal experimentation to determine their physiologic action and therapeutic effects. It was found that the chief action of vanadium was on the vascular system with constriction of



the vessels of the lungs, spleen, kidneys and intestines, with dilatation of the superficial vessels. The flow of urine and lymph was increased. The intestinal musculature was stimulated, as was also respiration. Toxic doses produced paralysis of the respiratory and vasomotor centers, with marked fall of temperature, unconsciousness, coma and death. Albuminuria and anuria were noted, and vomiting, increased peristalsis and hemorrhagic diarrhea were also present. The dosage and toxicity for man are discussed. Marked spirocheticidal effect was noted and syphilitic lesions treated by injections of the various salts selected, retrogressed rapidly. The authors conclude that the vanadium salts have a specific effect on syphilis, clearing up clinical manifestations and favorably affecting the Wassermann reaction, but that their comparative therapeutic effects will require further study.

A PROCEDURE FOR SERUM DIAGNOSIS OF SYPHILIS ESPECIALLY RECOMMENDED FOR HOSPITAL ROUTINE. J. BRONFENBRENNER AND M. J. SCHLESINGER, p. 406.

An article presenting a technic for the serologic diagnosis of syphilis. The authors claim that many of the objections to the usual technic are overcome. The paper is given over to discussion of the details of the technic.

PALMAR SYPHILIDES. HOWARD FOX, p. 422.

The differential diagnosis of palmar syphilides and a description of the various types is presented. Eight excellent plates accompany the article.

A SERIES OF RUPTURED AORTIC ANEURYSMS. PAUL G. WOOLEY, p. 426.

Nine cases are reported. The ages of the patients varied from 32 to 43 years. All were syphilitic. Of particular interest in connection with these cases is the following; in one case perforation was external through the sternum; in one into the superior vena cava; in one into the left pleural cavity by way of the diaphragm; in one it was retroperitoneal; in one into the left pleural cavity by way of the lung; in two it was into the left main bronchus; in one into the left ventricle; and in one into the pulmonary artery. Thus six sprang from the arch and two from the abdominal aorta.

SOME REMARKS ON THE SEROLOGICAL DIAGNOSIS OF SYPHILIS WITH SPECIAL REFERENCE TO THE HECHT-GRADWOHL TEST. R. B. H. GRADWOHL, p. 450.

The author presents an interesting review of syphilis with particular reference to the serologic tests. The Wassermann test is analyzed and certain well defined objections and limitations are pointed out. The technic of the Hecht-Gradwohl modification of the Wassermann is given and its advantages stated. It is estimated that by the Hecht-Gradwohl test, 15 per cent. more of cases are positive than by the Wassermann, this holding particularly in the late stages of the disease when the Wassermann is not dependable.

THE INFLUENCE OF THE WASSERMANN TEST ON SURGERY. T. L. RHOADS, p. 468.

Late visceral, bone and central nervous system syphilitic lesions are those in which the surgeon will often be in doubt as to the proper diagnosis. The Wassermann test will be found to be positive in 95 per cent. of visceral lesions, in 90 per cent. of bone lesions, and in 80 per cent. with central nervous system involvement. Three negative tests, reinforced by a negative provocative Wassermann, and by a negative spinal test, if there is a history of syphilis or if there are clinical manifestations of involvement of the central nervous system, are accepted as conclusive of the absence of syphilis.

## SYPHILIS OF THE DUODENUM. J. L. MORTIMER, p. 473.

Gummas are the most characteristic growth found in intestinal syphilis; there may be one or more, the size varying from a few centimeters to the palm of the hand. They are generally dirty white or yellow in color, with hard, well defined borders. A fresh gumma is more vascular than an old one, since the usual obliterating endarteritis and endophlebitis have not reached an advanced stage. Through disintegration of gummas there occur ulcers and later cicatrices. The author reports such a case. The clinical symptoms comprised epigastric pains radiating to the right side, coming on several hours after eating, nausea, but no vomiting or pyrosis; eructation of gas relieved the pain. Diagnosis was made by the history, Wassermann test and the Roentgen-ray findings and the patient recovered under antisyphilitic treatment.

## EXPERIMENTAL SYPHILIS PRODUCED THROUGH LOCAL APPLICATIONS TO MUCOUS MEMBRANES. MATHEW A. REASONER, p. 478.

A rich emulsion of *Treponema pallidum* was carefully dropped on the mucous membranes of the eyes, nose and vagina; eight rabbits were treated in this manner with one positive and one doubtful result. The experiment is intended to show that it is possible to transmit syphilis through apparently normal mucous membranes.

## PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE, DERMATOLOGY DEPARTMENT

(January, 1917, 10, No. 3)

Abstracted by W. H. GUY, M.D.

## FIXED ERYTHEMA OF THE PALMS. H. G. ADAMSON, p. 61.

Report of a case.

## CASE FOR DIAGNOSIS. GEORGE F. STEBBING, p. 58.

A lichen planus of unusual type.

## VON RECKLINGHAUSEN'S DISEASE. J. L. BUNCH, p. 59.

Report of a case.

## CASE OF EDEMATOUS SCLERODERMIA. J. M. H. MACLEOD, p. 60.

A case of unusual type, showing acanthosis and pigmentation about the elbows, axillae, groins and neck.

## LYMPHADENOMA WITH CUTANEOUS LESIONS. DUDLEY CORBETT, p. 64.

A case previously reported by Dr. Sibley. Three photographs are presented showing the generalized eruption.

## SCLEREMA NEONATORUM. J. H. STOWERS, p. 68.

Sclerema involving the back and neck with subsequently a few areas on the chest and arms. The condition had been present since a few hours after birth and was improving at the time of presentation. Inasmuch as the baby had been in a state of semi-asphyxia for some hours after delivery, a possible etiological factor in pressure was suggested.

## ACQUIRED SYPHILIS IN A GIRL, AGED EIGHT YEARS. H. C. SAMUEL, p. 69.

Chancre of the lip, glands of the neck, typical roseola with mucous patches in vulva and anus. Mother was a syphilitic for five years and recently gave birth to a child with congenital syphilis and the healthy daughter acquired the disease by kissing the baby.

## MORPHEA-SCLERODERMIA. GEORGE PERNET, p. 73.

Presentation of a case.

## PSORIASIS AND LICHEN ATROPHICUS. W. KNOWSLEY SIBLEY, p. 74.

A patient having typical psoriasis and also morphea-like lesions on the chest and arms.

## SYMMETRICAL GANGRENE OF THE SKIN. W. KNOWSLEY SIBLEY, p. 76.

The lesions in this case began on the inner sides of the thighs, as blebs, spread rapidly and caused considerable superficial destruction of tissue; the colon bacillus was subsequently isolated from them.

## KELOID AND URTICARIA PAPULOSA. ALFRED EDDOWES, p. 77.

A case showing a congenital tendency to keloid on slight injury, associated with urticaria papulosa.

*(Ibidem, March, 1917, 10, No. 5)*

## A CASE OF SMALL-SPORED RINGWORM OF THE SCALP IN AN ADULT. E. G. GRAHAM LITTLE, p. 79.

## CASE OF EPITHELIOMA OF THE HAND FOLLOWING TRAUMATISM. J. L. BUNCH, p. 80.

## CASE ILLUSTRATING THE OXIDATION AND REDUCTION THEORY OF THERAPEUSIS. J. E. R. McDONAGH, p. 83.

A case of mercurial poisoning cured by intramine.

## LATE CONGENITAL SYPHILIS MANIFESTATIONS. GEORGE PERNET, p. 87.

A boy, aged 14, with ulceration and some destruction of the uvula and soft palate. Irregular implantation of the teeth, Olympian forehead with marked frontal bosses were noted. Severe nocturnal headaches had been present and had improved under specific medication. The duration was six months. The Wassermann was positive. The lesions healed rapidly under antisyphilitic treatment.

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MEDICAL RECORD

*(Mar. 10, 1917, 41, No. 10)*

Abstracted by W. H. GUY, M.D.

## MASSAGE IN RAYNAUD'S DISEASE (DRY GANGRENE). DOUGLAS GRAHAM, p. 402.

The author reports the use of massage of value in the therapy of the condition named in his subject.

(*Ibidem*, Mar. 17, 1917, 41, No. 11)

THE REAL CANCER PROBLEM. L. DUNCAN BULKLEY, p. 441.

The cause of cancer is due to a disturbance of metabolism which is the result of the manner of living in this modern era of advanced civilization, according to the theory of the author. He reports favorable results in treatment of certain cases by restriction to a strict vegetarian diet, outdoor exercise, regular hours, etc.—in short the avoidance of all things that might disturb metabolism, which of course, entails careful regulation of the emunctories.

With Ross of London, the author uses potassium acetate internally, because of a lack of potassium in the blood.

(*Ibidem*, Mar. 31, 1917, 41, No. 13)

SUSCEPTIBILITY TO FURUNCLE. DOUGLAS W. MONTGOMERY AND GEORGE W. CULVER, p. 533.

A series of 161 cases is studied from various angles; 70 per cent. of the cases occurred between the ages of 20 and 40 years; 57 per cent. of them were in males; sedentary occupations were found to have a distinct bearing in etiology. But little seasonal fluctuation in occurrence was noted; susceptibility and freedom from furuncle had no evident periodicity. Seventy-two occurred in the cephalic region, 37 on the body, 30 on the upper and 17 on the lower extremities; seborrhea was present in 126 cases, acne in 21, pruritic affections in 54. Concomitant pyogenic infections in 11, anemia was noted in 57, constipation in 91; in most of the cases there were found digestive disturbances and errors in diet. Indicanuria was present in 26, bile in 23. The reader is referred to the original article for much of interest.

(*Ibidem*, Apr. 7, 1917, 41, No. 14)

DIAGNOSIS OF SYPHILIS OF THE NERVOUS SYSTEM. EDWARD LIVINGSTON HUNT, p. 581.

Reliable diagnosis of syphilis requires a knowledge of facts, a clinical examination, a blood examination, a lumbar puncture, a Roentgen-ray picture and common sense.

The Wassermann and the Lange reactions are especially mentioned as of value in diagnosis.

## NEW YORK MEDICAL JOURNAL

(Jan. 27, 1917, 105, No. 4)

Abstracted by W. H. GUY, M.D.

A CASE OF ADDISON'S DISEASE. JOS. A. MENDELSON, p. 156.

(*Ibidem*, Mar. 3, 1917)

THE DESTRUCTION OF ANGIOMAS AND OTHER NEW GROWTHS BY THE INJECTION OF QUININ AND UREA HYDROCHLORID. W. WAYNE BABCOCK, p. 385.

The author reports favorable results in angiomas, hemorrhoids, keratoses, epitheliomas, etc., by the above method.

(*Ibidem*, Mar. 17, 1917)

PREVENTION AND TREATMENT OF CANCER BASED ON ROENTGEN-RAY FINDINGS OF DENTAL INFECTION AND THE USE OF AUTOGENOUS VACCINES. SINCLAIR TOUSEY, p. 485.

A preliminary report.



(*Ibidem*, May 12, 1917, 105, No. 19)

INTRASPINAL INJECTIONS OF NEOSALVARSANIZED SERUM IN  
NERVOUS AND MENTAL DISEASES. ALFRED GORDON, p. 873.

The author concludes that the results obtained in 212 cases are bound to create a spirit of optimism in the management of syphilis involving the central nervous system. A procedure which enables us to bring spirocheticidal reagents into direct contact with the cerebrospinal system, intraspinally or intracerebrally, seems most logical, and results obtained to date indicate that future success lies in perfection of this method.

THE MODERN DIAGNOSIS AND TREATMENT OF SYPHILIS.  
B. A. THOMAS, p. 879.

An analysis of 557 cases with the following conclusions of note: 1. The Wassermann is the most reliable control to treatment and index of cure. 2. Early administration of salvarsan, neosalvarsan or arsenobenzol is essential for the prompt cure of early syphilis, one or two doses being sufficient to bring about a cure during the first week of the infection, in most cases. 3. Secondary syphilis may be cured without mercury by using salvarsan intensively. 4. Arsenobenzol, Canadian diarsenol, and the French preparation are inferior therapeutic agents to the German product, their relative inferiority not being marked.

FAVUS OF THE SCALP AND EYELIDS. WALTER BAER WEIDLER, p. 887.

Report of a case, describing an unusual distribution of the disease.

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ARCHIVES OF INTERNAL MEDICINE

(*February*, 1917, 19, No. 2)

Abstracted by R. C. JAMIESON, M.D.

HEREDITARY HEMORRHAGE WITH TELANGIECTASIA. W. R.  
STEINER, p. 194.

Steiner adds a report of three families in which this interesting hemorrhagic condition is present.

Heredity he found to be the only constant factor, though other influences, such as alcoholism, syphilis and trauma, may sometimes be partially causative. Both sexes were affected almost equally and both could transmit it. Pathologically there was a loss of muscular and elastic tissue in the walls of the superficial vessels which were dilated and lined only by endothelium, being therefore especially liable to rupture.

Hemorrhage may be slight or severe, often spurting from the spots. As the patient becomes older the hemorrhage is more apt to increase in severity, cautery offering in most cases the best results.

(*Ibidem*, March, 1917, 19, No. 3)

ON THE RELIABILITY OF THE WASSERMANN REACTION.  
REUBEN OTENBERG, p. 457.

This article is described by the author as "a study of the sources of error and an attempt to standardize the technic" and he discusses at length the various phases which have caused varying reports from different serologists.

Variation of technic was found to be a great obstacle to uniformity of results, each worker holding the idea that his method gives the best results. He considers in detail the total amount of fluids used and the primary incu-

bation—in which he believes the reagents should be incubated longer, using the icebox method with alcoholic antigens but not cholesterinated.

He does not believe the dose of antigen should be arbitrary nor should cholesterinated antigen be relied on alone for diagnosis. The cholesterinated antigen gives best results in cases under treatment as it will often give a weak positive when the simple antigen gives a negative. He treats serums which are naturally sheep hemolytic by absorption of hemolysins.

Other problems are dealt with in a minute manner and cannot be well abstracted.

THE RELATION OF PREGNANCY AND CHILDBIRTH TO PELLAGRA IN WOMEN. J. F. SILER, P. E. GARRISON AND W. J. MACNEAL, p. 404.

Pellagra was relatively less frequent during pregnancy than at other times but there was found to be increased liability to its development in the early months after childbirth. Recurrence was less during pregnancy, especially in the early months and the attacks were mild in character.

The chief significance of these observations was in regard to prognosis as well as the treatment and management of married women afflicted with pellagra.

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## JOURNAL OF EXPERIMENTAL MEDICINE

(March, 1917, 25, No. 3)

Abstracted by R. C. JAMIESON, M.D.

THE DRUG-FASTNESS OF SPIROCHETES TO ARSENIC, MERCURIAL AND IODID COMPOUNDS IN VITRO. SEINAI AKATSU AND HIDEYO NOGUCHI, p. 349.

The writers have shown by their experiments that the varieties of spirochetes could acquire an increase of resistance to increasing doses of certain drugs. They used pure cultures of *Treponema pallidum*, *Treponema microdentium* and *Spirochata refringens* while the drugs used were salvarsan and neosalvarsan, mercuric chlorid and iodine-potassium iodid, employing both liquid and solid media.

In three to four months the pallidum and microdentium increased their resistance to salvarsan and neosalvarsan five and one-half times, the refringens only three and one-half. The increase against mercuric chlorid was more pronounced, being 35 to 70 times for the pallidum, 10 times for the microdentium. Against the iodine-potassium iodid solution the increase of resistance was slight while the increases above noted did not occur when a solid medium was employed instead of a liquid.

The spirochetes lost their drug-fastness when grown again in normal media.

THE RESISTANCE OF SPIROCHETES TO THE ACTION OF HEXAMETHYLENETETRAMIN DERIVATIVES AND MERCURY AND ARSENIC COMPOUNDS. SEINAI AKATSU, p. 363.

Seventy-six new compounds were tested and found to kill spirochetes in dilutions varying from 1:50 to 1:100,000, the latter being bichlorid of mercury. The spirocheticidal property of phenol was found to be 1:2,500; lysol, 1:5,000; formalin, 1:750; salvarsan, 1:7,500; neosalvarsan, 1:2,500. Many compounds which were spirocheticidal in 1:1,000 dilution were only one-tenth that strength bactericidal against *Bacillus dysenteriae* and *streptococcus*, while atoxyl was spirocheticidal in 1:50.

Spirochetes were found to undergo cytolysis with high concentrations of sodium cholate (1:5,000), sodium glycocholate and taurocholate (1:2,500) and

saponin (1:7,500). Neither sodium nor potassium iodid possessed any marked action.

#### THE INFLUENCE OF CARBOHYDRATES ON THE CULTIVATION OF SPIROCHETES. SEINAI AKATSU, p. 375.

Amygdalin, arabinose, beerwort, dextrin, galactose, glycogen, glucose, inulin, lactose, levulose, maltose, mannite, raffinose, saccharose and starch were added in culture media with various strains of treponemata. Glycogen and glucose inhibited the growth of spirochetes and caused an earlier degeneration. No unusual changes in the morphology of the spirochetes occurred with any of the above experimental carbohydrate media.

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### MUENCHENER MEDIZINISCHE WOCHENSCHRIFT

(Feb. 15, 1916, 63, No. 7)

Abstracted by ARTHUR WM. STILLIANS, M.D.

#### A PECULIAR, LATE SCARLATINIFORM EXANTHEM FOLLOWING TYPHOID AND CHOLERA VACCINATION. W. FRIBOES, p. 228.

A report of a series of twelve cases of scarlatiniform erythema in soldiers who had finished their immunization against typhoid and cholera three to four weeks previously. The severe cases began with a chill, followed by considerable fever (39 C. and over), sore throat, conjunctivitis, coryza and a peculiar cough. A second series of nine cases occurred later, and two cases were observed between the series. The eruption had, in the less severe cases, a yellowish pink tinge and the severe cases showed this color at the border of the patches, which were dark red in the center. The face was sometimes swollen and red, with a pale area about the mouth in two cases. The most severe case had an otitis media, an ulcerative angina and a slight albuminuria. The eruption differed from scarlatina in the color, seemed to begin on the whole trunk instead of in the infraclavicular region, and did not involve the hands and feet. No exfoliation was seen in any case, and no contagion occurred, although these cases were treated in an open ward with many others. All the cases cleared up in from three to five days.

#### ARSENICAL KERATOSES OR QUICKSILVER EXANTHEM? C. PHILIP, p. 231.

In answer to Wechselmann's criticism of the author's article in Vol. lxii, No. 37, of the *Muenchener medizinische Wochenschrift*, he insists that the lesions of the palms in his patient were real keratoses, appearing after the exfoliative dermatitis had cleared up. He also objects to allowing the presence of mercury in the scales of Wechselmann's case as a proof of mercurial poisoning, as mercury can be found long after an ordinary series of treatments. In answer to Wechselmann's statement that a keratosis has never been seen after salvarsan, he replies that it has also never been seen after mercury, although the number of mercury treatments far exceeds those with salvarsan, even though Wechselmann's 60,000 are counted among the latter.

#### THE TREATMENT OF SKIN DISEASES WITH THIGASIN. E. FRAENKEL, p. 254.

Thigasine is a thigenol ointment to which acetone-chloroform has been added. The author has found it very useful in itching dermatoses.



(*Ibidem*, Feb. 22, 1916, 63, No. 8)

# EXPERIENCES WITH SALVARSANNATRIUM IN CONCENTRATED SOLUTION. A. SCHMITT, p. 270.

In the experience of the author it is possible to use salvarsannatrium safely in concentrated solution in distilled water. He has given 57 injections of 0.3 gm. in 10 c.c., and 20 injections of 0.45 gm. in 10 c.c. Only in two cases was there any material rise of temperature, and these had mild reactions. One case had a phlebitis, both proximal and distal to the point of injection. The author thinks that this may have been due to failure to loosen the constrictor fully.

(*Ibidem*, Feb. 29, 1916, 63, No. 9)

# TYPHOID AND PARATYPHOID ROSEOLA. E. FRAENKEL, p. 325.

Over fifteen years ago the author made his first histologic study of the rose spots of typhoid and by incubating the biopsy material in bouillon, succeeded in proving the existence of typhoid bacilli in the rose spots, as well as obtaining a more complete study of their other histologic peculiarities. In any one lesion only a few of the papillæ are affected, sometimes only one. The affected papillæ are more or less swollen and show an increase of the fixed connective tissue cells. No leukocytes or lymphocytes are seen, but groups of typhoid bacilli are found in the lymph spaces. The capillaries are dilated. In some instances the process is severe enough to cause necrosis of the papilla and overlying epidermis. The same is true of the fading rose spot. In an eleven day old lesion, a maculo-papule, a small collection of the bacilli was found between the dermis and epidermis. The author suggests the possibility that during the fine exfoliation following the eruption, living typhoid bacilli might be excreted in this way and spread the infection.

He examined in the same way a lesion from a case of paratyphoid, and found the bacilli in great numbers in the lymph spaces, while the tissue reaction was much milder than in the typhoid lesions, only an edema of the papillæ without cell infiltration.

(*Ibidem*, Mar. 7, 1916, 63, No. 10)

# BLOOD CHANGES AFTER RADIATION WITH MESOTHORIUM. B. SCHWEITZER, p. 341.

The cases of pelvic carcinoma on which these observations were made all had secondary anemia and many had slight leukocytosis and eosinophilia before the treatment was begun. All cases received large doses of the radiation, between 900 and 1,500 milligram-hours, through a brass filter, 1.5 mm. thick. A few cases were too near death to show any benefit from the treatment. All the others showed, soon after the treatment, an increase of hemoglobin and red cells, probably as a result of the cessation of hemorrhage. The leukocytes increased very soon up to 12,000, on the average, about 3,000 more than the average count before treatment. Within twenty-four hours the count had returned to its former number and in forty-eight hours was below this figure. Three or four weeks after the first series of treatments, aggregating 2,600 to 4,900 milligram-hours, the white cells were still few, from 3,000 to 6,000.

The initial increase was in the neutrophils, which later fell below the normal percentage. The lymphocytes and eosinophils were diminished immediately after the exposure, later to increase above the normal. The author is convinced that this disturbance of the whole number and the relative percentages of the various kinds of white cells is a temporary condition of no importance to patients receiving treatment for a limited time. It is of great importance to radiotherapeutists, however. Previous reports have not carried the blood counts more than a week after the end of treatment. The author finds the disturbance of the white count very regularly at the end of the third or fourth week after treatment. He believes that the lymphocytes are destroyed in the



blood stream by the direct action of the rays, the reaction to this resulting in overproduction later.

CARCINOMA OF THE BACK OF THE HAND ON THE SCAR OF AN OLD GUNSHOT WOUND. E. MELCHIOR, p. 371.

The patient, as a boy of 9 years, received a pistol wound in the hand in the Revolution of 1848. After this scar was 68 years old, a carcinoma developed, necessitating an amputation of the forearm. The author recalls the case reported by Coenen in which a scar of 47 years' standing was the site of a carcinoma. This was, like Melchior's case, also on the back of the hand.

*(Ibidem, Mar. 28, 1916, 63, No. 13)*

THE TREATMENT OF LOCALIZED TUBERCULOSIS WITH LECUTYL AND ARTIFICIAL SUNLIGHT. A. STRAUSS, p. 449.

Lecutyl is a stannate of copper and lecithin. It has given good results when administered by mouth and percutaneously to patients with internal foci of tuberculosis, but when it can be applied locally it is much more active. The author mentions a case of tuberculous caries of the femur healed in two months' treatment and remaining well for over four years, an extensive lupus vulgaris of the arm cured after several courses of treatment, and a very extensive lupus vulgaris of the face, ears, chest and neck, also cleared up. But the drug alone is insufficient for many cases, and the combination of lecutyl and quartz lamp treatment is especially recommended. Dressing of the lesion with the drug, two or three times a week, and a more or less general exposure of the body to the quartz lamp from two to six times a week, have given good results in many cases. The dressing is left in place during the exposure to light, in order to protect the lesion. The author explains the results by the theory that the general exposure of the skin to light is productive of pigment, the excess of which is carried by the red cells to the cells of the lesion, here causing a local reaction like that due to tuberculin. This reaction he has seen in cases which had only general exposures to the light, no local treatment, and the lesion protected from the light. Oxidation is increased, and the production of red cells and hemoglobin stimulated by the light, while the skin temperature is raised at the same time that the inward temperature is lowered. This effect he aids by the use of incandescent light, "red, deeply penetrating rays," as he calls them.

To this effect of light is added the local effect of a copper salt, which also has been shown to cause a reaction very like the local reaction of tuberculin. It is an active antiseptic, increases oxidation and assists the action of light in the production of pigment, just as arsenic does. Thus the two agents work together to resolve the tuberculous tissue, destroy the toxins, produce an unfavorable soil for the growth of the bacilli, increase metabolism, improve the general health and perhaps aid immunization. The general effect of light is much preferable to its local action, because it is specific, while the local action is not.

CONCERNING THE CONFUSION OF QUICKSILVER AND SALVARSAN ERUPTIONS. WECHSELMANN, p. 458.

To Neisser the author replies that he never has denied that a salvarsan exanthem occurs. On the contrary, he described cases in 1910 and 1911. But he has never seen edema and infiltration of the skin, such as Neisser describes as "arsenic exanthem." These resemble mercury dermatitis very closely, and he suggests that it would be of great value if Neisser would report his cases. He accuses Philip of changing the description of the palmar lesions in his case, and says that the testimony in favor of their being arsenical keratoses is of no value because of poor description.

## THE WAVE LENGTH OF THE ROENTGEN RAYS AS A MEASURE OF PENETRABILITY. A. SOMERFELD, p. 458.

The author gives the additions to our knowledge of the atom resulting from our ability to measure the wave lengths of Roentgen and gamma rays by means of crystals. He explains the shortcomings of the Wehnelt and Benoist penetrometers as due to the fact that silver has an increased absorption for all wave-lengths under 0.049 micro-microns, so that these instruments are not to be depended on for measurements of rays of very short wave-lengths. He suggests that in the future tubes may be graded according to the average wave length of their radiations, instead of roughly as soft, medium and hard. This is a very interesting article.

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DEPARTMENT OF PUBLIC CHARITIES, NEW YORK CITY  
HOSPITAL BULLETIN

(January, 1917, No. 2)

Abstracted by OSCAR L. LEVIN, M.D.

## AN UNUSUAL FORM OF MYCOSIS FUNGOIDES. WILLIAM S. GOTTHEIL, p. 89.

The patient, a male German, aged 30, first noticed the eruption on his arms and legs fifteen years ago. This consisted of small red spots covered with fine white scales. After persisting for several weeks these would fade, to leave pigmented areas which would gradually disappear. New lesions would appear from time to time. A similar eruption appeared on the trunk, six years ago.

The scalp condition appeared two years ago as a small, white, scaly area which extended slowly to the present size. Moisture was first manifested nine months ago.

When admitted to the City Hospital there was an eruption on the extremities and trunk, consisting of pinhead-sized, bright red, slightly elevated papules, covered with fine, white, fairly adherent scales. In places the papules were confluent and formed large, dark red, infiltrated patches. The eruption on the trunk and extremities presented, on the whole, the appearance of a chronic seborrheal eczema. The right side of the scalp was devoid of hair, bright red, swollen and in places moist. The affection also involved the right forehead and temple.

The diagnosis of mycosis fungoides was made after an examination of the tissue removed from the extremities and scalp.

The article is accompanied by a photograph showing the extent of the lesion on the scalp and face. There is also a microphotograph of a section from the scalp, showing the dense infiltration in the corium.

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## THERAPEUTIC GAZETTE

(Jan. 15, 1917, 41, No. 1)

Abstracted by OSCAR L. LEVIN, M.D.

## CARDIAC SYPHILIS. THOMAS E. SATTERTHWAITE, p. 4.

Syphilis of the heart begins in the vessels and perivascular tissues and produces a progressive induration of the interstitial tissue. The lesions resemble those of tuberculosis and it is impossible to distinguish between the two when

bacilli and spirochaetes are not found. Endocarditis, pericarditis or myocarditis occurring in syphilis, when found at autopsy, is likely to be attributed to something other than syphilis, except when gummas or a marked fibroid infiltration are present.

The clinical diagnosis of cardiac syphilis depends on a previous history of syphilis, arteriosclerosis, a weak, frequent or infrequent arrhythmic pulse, dilated heart, angina, aortic dilatation, or aneurism; valvular disease, usually aortic; finally the Wassermann or other syphilitic reaction. The therapeutic test is also of value.

Cardiac symptoms are present in most cases of syphilis; though they may appear in the second stage, they usually are not discovered until the third stage.

Not only is syphilis a more common disease than previously suspected but in a certain number of cases it is the actual cause of death from heart implication. Cabot reported syphilis as the cause of death in 13 per cent. of 562 cases of heart failure; Breitmann, Mraček and Julien have made it 33 per cent. As a result of his own experience, the author concludes that syphilis is the cause in 10 per cent. of the cases of heart disease.

The prognosis of cardiac syphilis is always bad. The best results are obtained when the diagnosis is made early and the proper treatment immediately instituted. A cure may be possible, while relief is probable, if the lesion is not too far advanced.

Treatment consists in the administration of salvarsan, mercury and iodids until the Wassermann reaction becomes negative. The usual treatment for cardiac disease is then given.

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## MEDICAL JOURNAL OF AUSTRALIA

(Jan. 6, 1917, No. 1)

Abstracted by OSCAR L. LEVIN, M.D.

### A CASE OF EPITHELIOMA ADENOIDES CYSTICUM (BROOKE). NORMAN PAUL, p. 8.

The author reports a case of this disease, occurring in a female, aged 37. A similar condition was present in the father, grandfather and two younger members of the family. In every case the condition had started about the time of puberty.

The lesions varied from millet-seed sized to a little smaller than hemp-seed sized papules. They were firm to the touch, somewhat more translucent than the normal skin and a few showed dilated capillaries. The eruption was symmetrical and distributed at the inner canthi of the eyes, along the nasofacial folds and on part of the upper lip. There was no tendency to breaking down.

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## MEDICAL REVIEW OF REVIEWS

(February, 1917, 23, No. 2)

Abstracted by OSCAR L. LEVIN, M.D.

### THE TREATMENT OF ECZEMA. OSCAR L. LEVIN, p. 120.

This article is an outline of the general plan followed in the treatment of eczema. Treatment consists in: first, the removal or correction of any local or general predisposing factor; second, the detection and removal of any direct external or internal excitant and third, the restoration of the normal local structure and function.

It is emphasized that water is not always harmful in eczema but it is often of distinct value. Water may do injury by prolonged soaking and subsequent maceration of the skin or by virtue of the presence of chemicals and irritants.

## REVISTA ESPAÑOLA DE UROLOGIA Y DERMATOLOGIA

(January, 1917, 19, No. 217)

Abstracted by VICENTE PARDO, M.D.

### TUBERCULOSIS AND PSORIASIS. BELISARIO GALLEG0, p. 5.

The author supports the view that psoriasis is indirectly due to tuberculosis or a para-tuberculosis, like lupus erythematosus. He quotes an article written by Sabouraud and published in the *Presse Medicale*, in which the author remarks the frequent coexistence of psoriasis and tuberculosis in the same patient; "psoriasis may be a cutaneous manifestation of larvate tuberculosis of slow evolution which never kills the patient. . . . I believe that the tuberculous origin of psoriasis ought to be taken into consideration and experimentally studied and investigated." Gallego ends his article recommending the tuberculin treatment of psoriasis.

(*Ibidem*, February, 1917, 19, No. 218)

### IMPORTANCE OF DETERMINING THE HEMOLYTIC INDEX OF THE SERUM IN THE SERUM DIAGNOSIS OF SYPHILIS BY THE WASSERMANN TEST AND ITS DERIVATIVES. L. DEL PORTILLO, p. 61.

It is known that human serum contains a certain amount of specific anti-sheep amboceptor, capable of hemolysing from 0.1 to 2 c.c. of a 5 per cent. suspension of erythrocytes. The author calls attention to the fact that this amboceptor is not at all considered in the original Wassermann test and not carefully titrated in its derivatives, wherefrom the most inaccurate results are likely to occur. He thinks that in the performance of the complement fixation tests, the hemolytic amboceptor should be titrated in every serum.

### SIX YEARS OF ARSENICAL THERAPY OF SYPHILIS. J. PEYRI, p. 64.

Since the discovery of salvarsan by Ehrlich, the author has been experimenting with this drug and its derivatives. He begins his article recalling that all arsenic preparations, including salvarsan and neosalvarsan, are incapable of achieving the "therapia sterilisans magna," but the remarkable results clinically obtained with these drugs on the actual syphilitic lesions justify their wide use. The author's experience has been with salvarsan, neosalvarsan and arsenobenzol (Billon) and from a total of 1,000 injections he concludes that there is no difference in these products so far as the clinical results are concerned; nevertheless, he prefers salvarsan to the other compounds on account of its quicker action.

The author has treated a few cases (eight) with galyl (Mouneyrat), and concludes that its action is similar to that of salvarsan, but he is unable to reach final conclusions with such a small number of cases. The drugs known under the names of 1116, ludil and 1151 are also considered, but the author has not had any experience with them.

The early and late accidents of arsenical therapy are studied in a total of 2,091 patients, with 4,103 injections. Among the first he has observed: syncope, fever, gastro-intestinal disturbances and the nitritoid reaction, due to the vaso-



dilator effect of the drug. Among the latter: neuritis and the so-called nervous relapses with meningeal lesions.

Three cases ending in death are described; one died three days after the injection from a serous encephalitis, another died six days after the injection with respiratory phenomena and a third one died after the second injection, with the classical symptoms of arsenic poisoning.

As for the contraindications, the author discards nephritis and optic neuritis and believes that all these cases improve with salvarsan; only the cardiac and vascular lesions are considered as contraindications to intravenous salvarsan therapy.

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## GIORNALE ITALIANO DELLE MALATTIE VENEREE E DELLA PELLE

(Feb. 12, 1917, 51, No. 6)

Abstracted by VICENTE PARDO, M.D.

### VITILIGO AND SYPHILIS. VIGNOLO-LUTATI, p. 317.

The relation of vitiligo to syphilis has been a matter of much discussion. There is undoubtedly a specific leukoderma or syphilitic vitiligo which appears during the second stage of the disease, most particularly in women, and which is but little influenced by specific therapy. The etiology of vitiligo is up to the present unknown; Brocq thinks it is of nervous origin and says: "The affection is brought about by a shock, an injury and also appears in syphilis and after violent neuralgias." Several authors, among them Pierre Marie and Darier, lay great importance to syphilis in its relation to vitiligo and have reported several cases in which syphilis was the etiologic factor in vitiligo. The author groups the pigmentary lesions of syphilis, according to Pautrier, as follows: first, primary lesions appearing as sole manifestations on the skin (melanodermia syphilitica of the neck, melanodermies atypiques of Fournier, and leukomelanodermie of Fournier); second, pigmentations appearing as a consequence of previous syphilitic lesions (hyperpigmented spots, brown or black in color, on the sites formerly occupied by papules, pustules, gummas, etc.); apigmented spots known under the name of leukoplakia syphilitica and white patches, surrounded by a dark or blackish ring.

Edward H. Marsh in America and Gouguerot and Guggenheim in France, have reported cases of syphilitic vitiligo, the etiology of which was beyond question. As for the mode of action of the syphilitic virus, it is thought that the spirochete may produce lesions of the suprarenal glands and hence disturbances in the regular distribution of the pigment in the skin. The author describes five cases of vitiligo associated with different forms of syphilis (vitiligo and tabes, vitiligo and heredo syphilis and vitiligo and syphilitid tuberosa), and finally says that vitiligo is not due to a single etiologic factor but that syphilis must be considered as a direct causative of the dyschromia in many cases.

## Correspondence

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TO THE EDITOR:

Dear Sir:—In an excellent article on phenol in the March issue of *THE JOURNAL*, by Douglas W. Montgomery, he remarks on page 161 that, "Neither camphor nor its allied substance, menthol, may be prescribed as solutions in eczema (as an antipruritic), because of being insoluble in water. The alcoholic solutions naturally cannot be used."

Nevertheless, the following formula is being used as an antipruritic, with marked benefit, in many dermatoses accompanied by pruritus, including eczema. The only exceptions being moist and ulcerative conditions of the skin.

R	Menthol .....	
	Resorcin .....	0.5 to 2.0
	Alcohol, pure.....	
	Distilled water.....	100.0

M. Sig.: External use; to mop on with cotton.

This gives a perfectly clear solution, provided it is made in the following way. The menthol and resorcin are added to the pure alcohol until complete solution takes place and then the distilled water is added, using the amounts as given above. If more water is added the menthol is thrown out of solution.

Various other soluble ingredients may be added or substituted when necessary, such as camphor, phenol, salicylic acid or antipyrin, etc., but not stronger than 2 per cent.

E. WM. ABRAMOWITZ, M.D.,

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## Book Reviews

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*THE INTERNAL SECRETIONS.* By E. GLEY, M.D., Professor of Physiology in the College of France; Member of the Academy of Medicine of Paris, etc. Translated from the French and edited by MAURICE FISHBERG, M.D., Clinical Professor of Medicine, New York University and Bellevue Hospital Medical College; Attending Physician, Montefiore Home and Hospital for Chronic Diseases. *Paul B. Hoeber Company, New York, 1917.* (241 pages.)

To the average physician the subject of the internal secretions seems to be somewhat involved, entirely theoretical and of little practical importance. The small volume by Dr. Gley supplies a concise, logical and practical consideration of the subject. Particular stress is laid on facts of practical application in the treatment of disease. The origin and development of our conception of the internal secretions is given considerable space in the first part of the book, the historical notes of which may or may not seem tedious to the reader.

Each "patron saint" of the internal secretions is given his "place in the sun." The distinctive characteristics of the internal secretory glands are considered. The author offers objection to the indiscriminate therapeutic use of organic extracts. The latter part of the book is devoted to a discussion of the physi-

ology of the internal secretory glands, particular attention being directed to their reciprocal activities in health, the diseased function being also discussed.

Conservative in tone, presenting facts as well as plausible theories, this small volume commends itself to the physician who, lacking time to read extensive works, desires a working knowledge of the endocrinous glands and their secretions.

W. H. G.

GRANULOMA VENEREO. By H. C. DE SOUZA ARAUJO. A monograph. 246 pages. 1917. Rio de Janeiro, Brazil.

There are about twenty-two different names for this disease, the most common being "ulcerating granuloma of the pudenda" and "granuloma venereo." Granuloma venereo is a chronic vegetating or ulcerating dermatosis affecting chiefly the external genitalia and the perigenital regions. It was first described in 1882 by K. MacLeod. Conyers and Daniels, Galloway, Donovan, Aragao, the author, and others have also studied it. It is not a tropical disease, it is universal, and has been encountered in India, the Pacific Islands and South America (where the disease is prevalent); it is also common in Africa and several cases have been observed in Europe and in the United States.

Granuloma venereo has been considered as a manifestation of syphilis, tuberculosis, framboesia, staphylococcia, phagedænia, mycosis, etc. It is really a bacterial disease caused by the *Calymatobacterium granulomatis*, discovered by Donovan in 1905. This germ is always present in the lesions and reproduces the disease experimentally. Treponema and spirilli have been found in the lesions, though not in all cases. Association with syphilis has been detected in several cases; also with soft chancre. The author establishes the following conclusions: the *Calymatobacterium granulomatis* is the specific germ of this disease because it has been found in all cases, it has been isolated and pure cultures have been obtained, experimental inoculations of mice and guinea-pigs have always been positive and the germ has been re-isolated from the animal; after healing of the lesions, the germ cannot be found in any part of the organism. The climate has no influence whatever on the disease. It attacks the colored race as well as the white, though some authors express the opinion that colored races are more susceptible. The age of the patient varies from 20 to 50 years; few cases in children have been recorded. The disease is transmissible and generally it occurs through sexual intercourse. Several cases presented extragenital lesions, caused probably by autoinoculation with the hands. Usually the persons attacked belong to the lowest social class, therefore cleanliness is an essential factor in preventing the disease.

The *Calymatobacterium granulomatis* belongs to the group of capsulated organisms, together with the pneumobacillus of Friedländer, the pneumococcus and *Bacillus aerogenes capsulatus*. It is a bacillus, one and a half microns long, oval shaped and with a very distinct capsule; it grows at room temperature as well as in the incubator at 37 C., on Sabouraud medium and agar especially. The best stain is Giemsa with which the bacillus is stained purple and the capsule light pink. The Gram stain is negative. The microorganisms may be detected in the serous discharge from the lesions and in the sections. They are usually arranged in rows and sometimes in zoöglæ.

The best animals for experimental work are mice, guinea-pigs being less susceptible. Mice die generally between twenty-four and forty-eight hours after an injection of 1 c.c. of the bacterial culture. Septicemia is the most common cause of death in animals and sometimes a subcutaneous nodule appears at the point of injection and the animal dies from cachexia, after several days. The Wassermann test is always negative in pure cases of granuloma. Biologic reactions, viz., agglutination, complement fixation, etc., are always negative.

Granuloma is a type of infectio-contagious tumor (Siebert). The pathologic changes begin in the derma, around the vessels, with a very thick round cell and plasma cell infiltration. The epidermis is secondarily attacked and destroyed. Giant cells are present now and then. In the epidermis the changes are at

first marked acanthosis with parakeratosis; when the epidermis is destroyed, the papillomatous subepidermic formations become naked, in the form of small, prominent, red and very friable tumors.

The disease begins as a small papule or pustule in or about the genitalia. The incubation period varies from eight days to one month. The initial lesion grows subcutaneously and finally breaks out and forms a papilloma or a small ulceration which spreads eccentrically in serpiginous form. There can be detected three stages: 1, initial lesion; 2, ulceration; 3, cachexia and death or retrogression and recovery. The author describes three clinical forms: ulcerating, hypertrophic and ulcerating-hypertrophic. The differential diagnosis must be made with syphilis, tuberculosis, *ulcus molle*, *ulcus tropicum*, condyloma acuminatum, frambesia, leprosy, actinomycosis, blastomycosis and sporotrichosis. The prophylaxis is based on cleanliness and quick treatment and isolation of the patients.

Surgical treatment, heat, light, cautery, etc., have been employed without success. Roentgen-ray treatment has proved useful and the author employs it in some cases. The treatment of choice is that by tartar emetic. They employ a 1 per cent. solution of this salt in normal saline and inject 5 c.c. of it intravenously every day. The drug is well supported and no distressing results have been observed. Generally, after five or six treatments the lesions begin to subside and the cure is complete after ten to forty injections, depending on the gravity of the disease. Trials of vaccine therapy and serotherapy have absolutely failed.

Thirty-two cases of *granuloma venereo* are described by the author.

V. P.

A TREATISE ON DISEASES OF THE SKIN FOR ADVANCED STUDENTS AND PRACTITIONERS. By HENRY W. STELWAGON, M.D., PH.D., Professor of Dermatology in the Jefferson Medical College; Consultant to the Dermatological Department of the Philadelphia General Hospital, to the Howard Hospital, to the Pennsylvania Institution for the Deaf and Dumb, to the Pennsylvania Institution for Feeble-Minded Children and to the Widener Memorial Training School for Crippled Children; Member of the American Dermatological Association; Honorary Member of the Society of Dermatology and Syphilography of France, of the Vienna Dermatological Society and of the Berlin Dermatological Society. Eighth Edition, revised. *W. B. Saunders Company, 1916. Philadelphia and London.*

Students and practitioners of dermatology are indebted to Dr. Stelwagon for his tireless energy and genius in not only writing a splendid textbook, but in keeping it up-to-date by numerous editions. The orderly manner in which the various subjects are presented, the completeness of the text, the up-to-date bibliography and numerous illustrations, not to mention the attractive appearance of the book, make it invaluable to all students of dermatology. In the present (the eighth) edition, the author has included the following new subjects: occupational dermatoses, paraffinoma, purpura annularis telangiectodes, xanthoma elasticum and *ulerythema ophryogenes*, while the following topics that have been revised or fully discussed include pellagra, angioma serpiginosum, erythema elevatum diutinum, pemphigus neonatorum (*impetigo contagiosa bullosa neonatorum*) leprosy, the leukemias, eczematoid ringworm, coccidioid granuloma and others. Among the 356 text illustrations and 33 colored and half-tone plates, 35 are new. The references to the literature, which are numerous, are conveniently placed as footnotes instead of at the end of each chapter. As in the previous edition, the work of the publishers is all that could be desired, the glazed paper being especially suited for the numerous illustrations scattered through the text.

H. F.



COLD IN DERMATOLOGY. LIQUID AIR. CO<sub>2</sub> SNOW. By JOAQUIN CERVERA. *Buenos Aires*, 1916. A monograph, 94 pages.

The author recounts the history of liquid air and carbon dioxid snow and reminds us that both were American discoveries. A condensed and very practical study on the technic of liquid air is given. Liquid air is very difficult to keep on account of its low temperature and high power of expansion when it becomes gaseous; it is also difficult to handle for it evaporates quickly and is capable of producing grave burns on the hands of the operator. The author keeps it in a Dewar's bottle, unstoppered. Liquid air is expensive, another inconvenience to count with.

Carbon dioxid snow has been employed by the author with practically the same results as with liquid air, with less danger and less cost. He describes several apparatuses and the technic for obtaining it. The microscopic changes pointed out by the author as a result of the action of carbon dioxid snow on the skin, are those of acute edema and congestion. Among his clinical observations he claims success in the treatment of cases of epithelioma of the face, lupus erythematosus, tuberculosis verrucosa, verruca vulgaris, verruca plana juvenilis, acne necrotica, hydro-adenoma, granulosis rubra nasi and blastomycosis.

V. P.

TOXIN THERAPY AND VACCINE THERAPY OF LEPROSY IN MEXICO. J. GONZÁLEZ URUENA. *Mexico*, 1916. A pamphlet, 12 pages.

The author has treated several leprosy patients with Rost's "leproline," imported from Bombay. "Leproline" is a bouillon culture of Hansen bacilli kept in the incubator for seven weeks and then filtered and sterilized at 80 C. He made several cultures in agar and prepared a vaccine which he named "leproline R. P.," in the following manner: 1, washing of the cultures with normal saline solution, collecting the fluid in a sterile flask; 2, bacterial count per c.c. (titration); 3, sterilization; 4, distribution of the vaccine in small ampules, adding 0.25 per cent. lysol. The dose of this vaccine, injected, was 1 c.c. every week.

The cases treated by Uruena were six, all of them natives, the clinical type of leprosy being nodular, nervous and mixed. No practical result was obtained; the patients remained in the same condition, without visible improvement.

V. P.

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## Resolutions

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On Jan. 3, 1916, George Thomas Jackson, for many years an honored and respected member of this Association and its one-time president, passed from this life.

Dr. Jackson had his early education in the schools and colleges of the city of New York, and received his degree in medicine from the College of Physicians and Surgeons in 1876. Following this, he spent two years in post-graduate study and practice in Berlin, Strassburg and Vienna. On his return to this country, he devoted himself to the study and practice of dermatology, and soon arose to a respected and eminent place among his fellow specialists. Dr. Jackson was consulting dermatologist to many of the larger hospitals in New York. He was a member of the New York and American Dermatological Associations, and was a member of the editorial board of THE JOURNAL OF CUTANEOUS DISEASES. From 1908 to 1913, he occupied the position of Professor of Dermatology at the College of Physicians and Surgeons in Columbia University.

Dr. Jackson's contributions to dermatology took the form of several articles and three books. The first of the latter, published in 1887, was on "Diseases of the Hair and Scalp." In 1912, in conjunction with the late Dr. Charles McMurtry, he published a "Treatise on Diseases of the Hair." His "Hand-book on Diseases of the Skin" went through seven editions.

WHEREAS, In Dr. George Thomas Jackson the American Dermatological Association has lost one of its oldest and most respected members; and

WHEREAS, The members of the Society have lost in Dr. Jackson a man of exceptional character and attainments; be it

*Resolved*, That the Association expresses its sense of loss in these resolutions on its minutes; and be it further

*Resolved*, That a copy of these resolutions be sent to Dr. Jackson's family as an expression of sympathy for them in their bereavement and as an indication of the great esteem in which the Association held him.

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## Notice

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### ORGANIZATION OF THE AMERICAN ASSOCIATION FOR THE CONTROL OF SYPHILIS

There was organized at Cincinnati, on May 23 and 24, 1917, the "American Association for the Control of Syphilis," the objects of the Association to be the promulgation of knowledge of syphilis among medical men, medical institutions, boards of health, hospital boards, dispensary attendants and boards, and other organizations having the care and treatment of syphilis.

Those composing the charter membership hope to develop the important social and economic sides of this disease. Plans are also being made to collect standardized statistics from the various institutions now treating syphilis; to further the establishment of free clinics and dispensaries for the diagnosis and treatment of syphilis, and to encourage the more comprehensive teaching of syphilis in medical schools.

The Association will operate through a national body and local branches in various cities, probably in close coöperation with the American Social Hygiene Association, the former to interest themselves in the purely medical side of the work which is not entirely covered by the latter Association.

The membership of the Association at present is composed of the following:

W. T. Belfield, Chicago	H. J. Nichols, San Francisco
Ernest D. Chipman, San Francisco	Oliver Ormsby, Chicago
W. T. Corlett, Cleveland	Sigmond Pollitzer, New York
Isadore Dyer, New Orleans	W. A. Pusey, Chicago
M. F. Engman, St. Louis	A. Ravogli, Cincinnati
J. A. Fordyce, New York	Maj. Matthew Reasoner, Washington
Marcus Haase, Memphis	J. F. Schamberg, Philadelphia
H. H. Hazen, Washington, D. C.	Morton Smith, Boston
M. B. Hartzell, Philadelphia	W. F. Snow, New York
H. E. Kleinschmidt, St. Louis	H. W. Stelwagon, Philadelphia
G. M. MacKee, New York	G. H. Walker, Baltimore
E. L. McEwen, Chicago	Grover Wende, Buffalo
W. H. Mook, St. Louis	Udo Wile, Ann Arbor
H. Morrow, San Francisco	J. M. Winfield, Brooklyn
	H. R. Varney, Detroit

The following officers were elected: M. F. Engman, president; J. F. Schamberg, vice president; H. E. Kleinschmidt, secretary and treasurer, 607 Federal Reserve Bldg., St. Louis.

# THE JOURNAL OF CUTANEOUS DISEASES

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## Original Communications

### ERYTHEMA FIGURATUM PERSTANS \*

W. H. MOOK, M.D.

ST. LOUIS

Probably the most important mile stone in the erythema multiforme group of skin diseases was laid in 1876 when Hebra, under the terms "polymorphous erythemata," grouped together several skin diseases, all of which were characterized by erythematous eruptions with exudations into the skin. This group included (a) erythema exudativum multiforme, (b) erythema nodosum, (c) roseola exudative, (d) urticaria. Although he grouped them under the one name, "Polymorphous Erythemata," he classified them as etiologically distinct diseases though having a similar pathological basis, namely erythema with exudations.

Dr. Adamson,<sup>1</sup> quoting Hebra's classical description, calls attention to its peculiar appearance. "In every instance it is present on the dorsal surfaces of the hands and feet. In the more severe cases, but only in these, it may be observed on the forearms or legs, on the arms and thighs and even on the arms and face." These later changes he considers as only exceptional and when found there, it invariably exists on the backs of the patient's hands. "The efflorescence consists of flattened papules, or tubercles, of a dark blue or brown color, between lentils to beans in size." He then describes how they may fade, leaving slight pigmentation; while in other cases they spread into rings (erythema annulare) or into concentric rings (erythema iris) or form gyrate and marginate figures by expansion and blending of the rings. He insists that all these forms are really phases of the same affection, including the vesicular and bullous forms. The subjective symptoms he considers as trifling. The duration varies between one

\* Received for publication June 4, 1917.

\* Read before the Forty-First Annual Meeting of the American Dermatological Association, Cincinnati, May 24-26, 1917.

1. Adamson: Brit. Jour. Dermat., 1912, p. 429.

and four weeks with a tendency to relapse at certain seasons. Undoubtedly, he was unfamiliar with the disease as a manifestation of grave visceral changes, and Lewin in 1878 called attention to its significance.

A second and very important mile stone was established when Osler called attention to "The Visceral Manifestation of the Erythema Group of Skin Diseases,"<sup>2</sup> in which he states, "According to the recent writers, under the erythemas are included simple erythemas, erythma exudativum, herpes iris, erythema nodosum, certain of the purpuras, urticaria and angioneurotic edema. The essential process is a vascular change with exudate, blood, serum, alone or combined. While five or six of the affections just named are described usually as separate diseases, they belong to one family and are characterized by the similarity of the conditions under which they occur, the frequency with which the lesions are substituted the one for the other in the same patient at different times, the tendency to recurrence, often through a long period of years and lastly, the identity of the visceral manifestation." He discusses the features presented by the entire group of twenty-nine cases, in which the seriousness of the condition is attested by the occurrence of seven deaths, or 24 per cent. The textbooks on dermatology seem woefully lacking in their treatment of this important work. He answers the criticism of his first two cases that he had jumbled together a motley group of cases, some of purpura, some angioneurotic edema, others of peliosis rheumatica; others again of exudative erythema, by saying he did so on purpose, seeking similarities, not diversities. In his second case, which he studied for six years, he noted purpura, erythema, angioneurotic edema and urticaria. In Cases 19 and 20, the most expert dermatologists were in doubt as to the nature of the lesions, and could only say it was a peculiar type of erythema. In 1905, Wende<sup>3</sup> read a paper before the American Dermatological Association on "Erythema Perstans Involving Circinate Lesions," with report of two cases. He included all varieties of persistent erythemas, some described previously as separate diseases, each having its own pronounced characteristic. In the second paper,<sup>4</sup> he reports a third case, and eliminates all save one variety. This variety presents erythematous patches which assume annular, marginate and gyrate forms, differing essentially from other varieties of erythema. I wish to present two cases of the variety similar in most respects to his cases.

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2. Osler: Am. Jour. Med. Sc., January, 1904.

3. Wende: Jour. Cutan. Dis., 1906, p. 241.

4. Wende, G. W.: Erythema Figuratum Perstans, Jour. Am. Med. Assn., Dec. 5, 1908, p. 1936.



## REPORT OF CASES

CASE 1.—Mr. A. F., a man, aged 46 years, first consulted me in December, 1909, for an eruption on his thighs and hips. His only serious illness happened at the age of 20, when he suffered a severe attack of diphtheria and received a large dose of antitoxin. He stated that at that time he suffered with "diphtheria paralysis" and was laid up for several months. At the present time, he states that he has been suffering from the skin disease for twelve years, and that the eruption first appeared on his forearms. In the twelve years, he has been free of eruption for a month or two, several times. The lesions are most abundant in the spring, and are apparently aggravated by hot weather. He is of the opinion that when his stomach is out of order they are more abundant. His description is that the lesions began as a small red spot and enlarged from the edges, sometimes running together to form patches, and scaling began in the center, after the spreading process had begun. In former years they would enlarge to about 4 inches in diameter, but in the last few years they average about 2 inches before they begin to fade. It requires three to four weeks usually before the brownish discoloration appears, though sometimes this is much longer. His opinion is that from three and one half to four weeks is the average duration of the individual lesions. They have no burning or itching sensation, and they are never painful. They are the same at night as in the day time. They always begin as small lesions. Sometimes they appear as single isolated patches and sometimes two or more appear at the same time. The areas involved are the inner and anterior parts of the forearms and wrists, the thighs and hips; never on the trunk, face, neck or below the knees. He has never had the eruption on the arms or forearms in the last two years; the present sites are the inner surfaces of the thighs and buttocks. The usual lesions to be seen are circinate and gyrate, from the size of a penny up to 2 inches in diameter, with a rather red border and fainter, fawn colored center. When I first examined him the lesions gave the appearance of the neurosyphilid of Unna, but were not so infiltrated as papular syphilis and the collar of soft infiltration around the periphery was continuous and not divided into separate papules. The new lesions are erythematous rings with a smooth surface, sharply defined, with no scaling or crusting. The scaling appears after they have been present from ten days to two weeks. His Wassermann reaction has always been negative. The differential and leukocyte count has been normal as well as the urinalysis, and his physical examination too has been negative. He has been under our observation at various times in the last eight years and we have never seen him free of eruption. Sometimes there are only two or three, but at other times there are fifteen or twenty. Systemic or local treatment has been of no avail. The skin reaction to the various foodstuffs gave a marked reaction to beef, and not quite so marked to mutton, but the milk, egg, pork, and wheat flour were the same as the control.

CASE 2.—Mr. J. M. C., aged 35 years, was referred by Dr. L. P. Butler. He stated that the disease had begun ten years before. He was a young man of good frame and physique. He thought that his father at one time had had some sort of eczema. He had always been healthy, except that when he was 6 years of age, he suffered from a severe attack of diphtheria, from which he thought he was partly paralyzed, as he remembered that it was several months before he was able to walk; and that he remembered his mother having told him that he was unconscious for many days. He did not receive antitoxin. In about 1905 he noticed under the right scapula a ring about the size of a quarter which would remain for a while, disappear and then recur. This process continued for several years in this area. He remembers that it responded fairly well to tincture of iodine which was liberally and frequently applied. The eruption has been more or less continuous since it began. The lesions are more marked in hot weather than in cold, and one time when he had an attack of malaria they were particularly marked. His digestion has been

particularly good in the last ten years, but before the eruption appeared he used to suffer with attacks of indigestion.

The lesions have practically not changed their character since the one he first noticed on his back. They began as small red plaques, spreading peripherally into a ring and as those rings enlarge and meet, they form gyrate patches. There is no scaling or crusting at first, but they do burn and itch, and they are especially pruritic at night. After a few days, the subjective symptoms cease and they become slightly scaly. The average size is about 1 inch, but they frequently attain the size of 2 inches in diameter. It requires from two to three weeks from the first appearance of the spot until the redness of the ring disappears, and then fades in the brownish discoloration. They are very annoying in summer when it is hot and perspiration occurs. He thinks they always begin as small spots but they are sometimes large when he first notices them.

They do not appear in crops or exacerbations, but one or two at a time, so that their appearance is more or less continuous. They have appeared all over his body except the face, neck, shoulders, hands and feet; in other words, from the axillæ to the ankles, and have been most abundant, during the two years we have been observing him, from the waist-line to the knees, and especially over the gluteal region. As in the preceding case, the characteristic of the lesion is an erythematous ring, very slightly infiltrated, many of them being almost perfect circles and at various times the lesions have consisted of concentric rings. This was not noticed in the preceding case. The center is usually very slightly discolored from the normal skin, and the lesions greatly resemble pityriasis rosea, after they have been present for a week. Frequently, when they occur in apparent groups, they run together and segments of the circles disappear at junctions with nearby lesions and thus gyrate patches are formed.

The blood counts have been practically normal, occasionally a very slight eosinophilia, never over 5 per cent. Urinalysis normal. Examinations of his teeth revealed a small pus pocket adjoining one tooth which contained ameba. He was given a long course of emetin injections, and the ameba disappeared but there was no change in the skin condition. His skin reaction to the various foodstuffs gave a marked reaction to beef, and not quite so much to pork, but the milk, egg, mutton and wheat flour were all the same as the control.

Thus it will be seen that we have two cases of this disease which are perfectly alike in their essential features. In one it has existed twelve years and in the other ten. The lesions are practically the same in both. It is to be noted that both of them suffered years before from very severe attacks of diphtheria and both of them suffered for several months following their attacks. In one there have never been any subjective symptoms while in the other itching and burning were present, and at times to a marked degree. The distribution in both, that is, on the buttocks and thighs and hips, was practically identical. In Case 2, occasional perfect concentric rings were noted, but this was not a constant feature.

The etiology is as baffling in one as in the other. The treatment was equally disappointing.

#### HISTOLOGY

The periphery of a newly formed circinate lesion was excised, including a portion of normal skin, hardened in alcohol, mounted in paraffin, and many stains used in study. The most striking pathologic picture observed was that of edema, involving the upper corium and the epidermis. The edema was

diffuse, separating the bundles of connective and elastic tissue and the latter fibrils were especially widely separated. Apparently there was no degeneration of the elastic or collagen fibrils. In the epidermis the intercellular and intracellular edema was marked and sometimes elongated and flattened the cells, producing thickening but not acanthosis. The horny layer was practically normal in this early lesion and parakeratosis was not observed. The stratum granulosum was not present over the lesion, edema probably eliminating this process of cornification. The squamous cells, while showing marked intercellular and intracellular edema, with a very occasional vacuolated cell, were not sufficiently swollen or torn apart to show vesiculation. The columnar layer in places showed elongation and flattening, owing to lateral pressure, but no degeneration. The superficial capillaries were dilated and showed cell infiltration of a few young connective tissue cells, a few mast cells and many round cells, bringing them out in relief, in the edematous corium. Differing from Wende's cases, there were no plasma cells. A few sweat glands showed very slight involvement. An occasional leukocyte was observed. The hair follicles and sebaceous glands were normal.

#### COMMENT

Wende's paper gives the complete clinical description and practically all the important literature on this peculiar form of erythema. He also gives the histology in detail. Close scrutiny of the cases reported shows unusual similarity. The disease begins as scattered and isolated papules, fading in the center, extending peripherally and gradually developing into oval and circinate lesions. In most all of them the edges are elevated, sharply defined, with little and usually not much scaling. They are pink in color, show slight infiltration and leave a fading center, covered with a branny desquamation. In Wende's cases they varied in size from a twenty-five cent piece to the palm of the hand. The lesions may remain from one to three months, gradually fading with slight pigmentation for a time, and then disappearing entirely, with no vestige of former activity remaining, but with a history of lesions being practically always present, in some stage of evolution. Wende calls attention to Corlett's cases, in which some of the lesions occur as rings within rings, following the lines of evolution established by the first, and stated that Adamson's case presented the same peculiarity. Case 2, here reported, at times presents these lesions. The histologic pictures in the few cases agree in the essential features. The edema is undoubtedly slow in formation and of no great severity, thus accounting for the fact that vesicles and bullæ have not been noted. In the section from Case 2, there were no plasma cells and the sweat glands showed very slight change or infiltration, as noted in Wende's case. This may be explained by the fact that the piece excised was an early lesion in the course of formation and perhaps had not reached its maturity.

The attempted classification of the erythema group at the present time will be productive of higher mental aviation than with most of the other groups of dermatologic affections, and certain etiologic facts



must be established before logical classification will be complete. The disease, when one first encounters it, has many features suggesting it to be a separate entity; the distribution, the evolution and involution of the lesions, its chronicity, lasting many years, perhaps a life time, the patient rarely being free of the lesions. The distinctive circinate and gyrate patches, the great similarity of its course in the cases reported, the rather constant histologic features and the rebelliousness to all forms of treatment would seem to almost automatically separate



Fig. 1.—Erythema Figuratum Perstans.

it from the erythema group, but looking at it in a broad sense, the most striking feature is that it is an erythema affection in all respects, in a chronic form, and it requires no very great stretch of the imagination to understand that a toxin, which acts only at times, and under certain conditions, may also be constant and produce constant lesions. In the erythema perstans of the face, the lesions greatly resemble some of the lesions described in these cases, in their clinical appearance, behavior and duration, but as the face lesions occasionally develop into lupus erythematosus, the development of lupus erythematosus immedi-



ately removes these particular cases from the erythema group. While Osler's cases of visceral manifestation are not exactly of the same type as the cases embodied in this report, his views on the erythema group cover the subject so thoroughly for an understanding of the various types, that I can do no better than to quote him.

"The members of the erythema group have not all the same etiology, and, indeed, as is well known, the individual members have a very diverse etiology, for example, the urticaria of cholelithiasis, of ague paroxysm, that which is caused by eating shell-fish or strawberries, the urticaria of hydatids, and an



Fig. 2.—Erythema Figuratum Perstans.

asthma attack have the same clinical and anatomical features, though caused by a variety of poisons—bacteria, protozoa, vegetable and metabolic. It is not unlikely that the poison in itself, of whatever kind, is of less intrinsic importance than certain transient aspects of cell metabolism. In the first place, there is no constancy of action of the same poison in different persons, or even in the same person at different times. This is notoriously the case of the animal and vegetable substances causing urticaria. In the second place, the chronic form of urticaria probably illustrates a morbid and persistent sensitiveness of the cutaneous vessels to poisons of either intestinal or tissue origin. Thirdly, the importance of local status is shown in that remarkable form of urticaria, which comes on after exposure to cold; so long as the face is at a tempera-

ture of above 60 degrees Fahrenheit, the patient is all right. Exposure at 40 degrees Fahrenheit is followed at once by an outbreak of urticaria; lastly, a peculiarity that may be transmitted through several generations, as angioneurotic edema, which is only urticaria 'writ large', must either be a morbid susceptibility of tissue or an inherited peculiarity of metabolism, or both combined."

The only additional thought to be added for a more modern conception would be a constant sensitization of the patient to some unknown toxin, namely anaphylaxis. While it is true that erythema figuratum perstans may be somewhat different from our conception of acute erythema multiforme in the clinical picture, the evolution and involution of the lesions and occurrence, is it not more convenient for present practical purposes, to keep erythema figuratum perstans in the erythema group, as a chronic erythema multiforme perhaps, until its final classification on etiologic grounds?

In the above two cases, practically identical with those reported by Wende and others, the suggestive classification is that of a chronic erythema multiforme of a peculiar type. Instead of appearing in acute exacerbations as in the acute form and in the usual locations, erythematous circinate lesions appear constantly over the trunk and extremities. The real etiologic factor is unknown but the apparent cause is a toxin in the blood exerting a selective clinical activity on the epidermis and the superficial capillaries especially. While the lesions may show marked improvement under local remedies such as chrysarobin, salicylic and benzoic acids, the relief is very temporary and fungi have not been found in the scales thus far.

In Case 2, a very strict vegetable diet over a period of six weeks produced no result, neither did the injections of emetin after the discovery of ameba in the teeth pockets. Local origin is untenable for the histologic picture is not that of a local infection and new lesions occur over widely separated areas, and cultures were negative, except for staphylococci. The reference to Osler's severe cases may seem far fetched at first glance but a study of the chronic intermediary types with erythematous lesions and grave uremic disturbances on one end, with mild erythematous efflorescences of the hands and face on the other, as in erythema multiforme, would make the inclusion in the erythema group, instead of a distinct entity, seem logical.

#### DISCUSSION

DR. WENDE said that inasmuch as Dr. Mook had concurred in the interpretation of a group as a whole, he wished to especially call attention to one case that did not correspond to the rest of the cases, and he included as well the cases reported by Dr. Mook. He had a photograph of that patient, and he made a special point to call on her a week ago and found that she was still in the same condition that she was about ten years ago. In this case the cutaneous disease began at birth. There was a persistent, scaly erythema until she arrived at the age of 5, at which time the erythema began to disappear,

and then the lesions, which had been no better described than they had been by Dr. Mook, had persisted ever since. This case corresponded to the one which was originally reported by T. Colcott Fox, in the *International Atlas of Rare Skin Diseases*, under the title, "Erythema Gydatum Perstans." He suggested the case was represented by being an anomalous type of erythema multiforme. In that report he also referred to another individual in the same family having and presenting a like condition.

Those of the members who attended the International Congress in London saw another instance of the same disease there, presented by Dr. Graham Little. Dr. Graham Little's case, the T. Colcott Fox case, and these cases corresponded exactly. This condition, as he had said, was present at the time of birth and had persisted ever since, uninfluenced by season, uninfluenced by treatment, and he had nothing to offer as to the etiology of this condition.

He presented a photograph of the patient before mentioned.

DR. HARTZELL said that the classification of diseases not only of the skin but of all other organs in many instances went through two stages. In the first place, we had a lot of diseases that were apparently classified according to their symptoms. A little later we learned their etiology, and then we lumped them under one term. They were simply examples of this or that disease. Erythema multiforme, the whole group of exudative erythemas, were undergoing that process. We had a great variety of erythemas classified as erythema multiforme. We will probably learn after a while that a considerable number of them represent varying forms all due to one etiologic factor. A little later, when we classified certain diseases according to their etiology, we also learned that different causes might give rise to practically the same sort of symptoms. He could give a better illustration than to speak of the close clinical resemblance which existed between verucous tuberculosis of the skin and blastomycosis. All will agree that the clinical diagnosis is very difficult at times, perhaps impossible, yet they were due to two wholly different organisms, quite unrelated, so that this erythema multiforme group was still in a process of evolution. A considerable part of them may be due to a common toxic substance, and others due to wholly different agencies.

DR. ENGMAN said: With reference to classification, it was essentially one of an etiologic basis. The erythema group, as Dr. Hartzell said, had been undergoing great changes in the last few years, and, it seemed to him, it was time, now that the way had been pointed out by internists and physiologic chemists, to produce an erythema etiologically which most of us would call a distinct entity. So it was with a great many other skin diseases, and in this group probably belonged a lot of the so-called erythemas and angioneurotic edemas, as pointed out by Osler. It would be interesting to follow the cases of children after they had had erythema multiforme or slight erythematous lesions extending through many years. The speaker had seen several of these cases and had followed the history when seen in others and they came in with rather grave cutaneous diseases; their histories were followed back through the years. For instance, they had such cases of an infection occurring twenty years before, accompanied by rheumatism, tonsillar involvement, which had persisted for years until there was a final breaking up of the individual lesions of the erythema group, even up to the development of gangrene, and finally there was the development of endocarditis and small visceral abscesses. There have been groups of individuals in whom there had been produced chronic urticaria for a good many years, and perpetual erythema, that ended in streptococcus abscess of the gallbladder. Then there were many conditions pointed out by Longcope, in which there was intermittent leakage into the general circulation of various tonsillar conditions or other focal infections which developed as a nephritis. Some of these cases were accompanied through the years by manifestations of the erythema group. Dermatologists have pointed out, after studying the skin in the last few years very carefully, these conditions and have given names to a great variety of eruptions. It was probable



that the erythema group was a part of the etiologic factors—what Dr. Brocq calls cutaneous reaction, the skin acting in a definite pathologic reaction to various stimuli and poisons. We had leakage from the intestinal canal in the course of digestion; the proteins were not broken up perhaps and therefore there was leakage into the general circulation which caused probably the various disease groups.

It seemed to the speaker, that we must, as Dr. Mook had essayed in his paper, try to place a lot of these things, given different names and different entities, which were merely symptoms in the general group of erythema as suggested by Osler.

DR. MACKEE said that Dr. Mook mentioned the finding of abscessed teeth in the second case in which he found the entameba. This patient did not respond to injections of emetin. The speaker thought that the patient ought to have been examined for the streptococcus and treated by the use of vaccines and removal of the abscess.

The classification of the erythema group was in about the same state of chaos as that of eczema, and included a number of entities. As an illustration attention was called to a case at the Vanderbilt Clinic which had been under observation for a couple of years. The eruption began apparently as an erythema, and as far as could be ascertained by histologic studies and clinical observation, it was turning into a case of lupus erythematosus. The speaker also had under observation a group of four or five cases in the same institution, and one remark Dr. Mook made about his second case caused the speaker to recall this group. In his second case Dr. Mook said the lesions recurred, that is, recurrence each time was in the same lesion. Clinically the speaker's cases were identical although the etiologic factors varied. A description of one case would answer for the entire group. The eruption consisted of palm-sized, oval patches of erythema without subjective symptoms. After a few months the erythema disappeared, leaving a marked pigmentation. There was never any vesiculation nor exudation. The two peculiar features of these cases were: in the first place, every few months there was a recurrence, and the recurrence was always in the pigmented patch. The pigmentation itself never disappeared. Histologically, it was impossible to separate the lesions from the erythema group. The only unusual feature was the presence of chromatophores in the derma.

In all probability the erythema group would eventually be broken up with a number of entities as soon as we possessed a greater knowledge of the etiologic factors.

DR. HEIMANN said that he was astonished at the number of varieties of given pathologic processes when it came to all the manifestations that appeared in the skin. The skin could respond in an acute inflammatory manner only in a few ways, and it was no wonder, that being the case, that a great many diverse causes could produce similar pictures, and it was similarly commonplace to admit that some cases could produce a variety of different clinical pictures. For instance, iodid. Everybody knew how many different skin pictures it may produce. The first way in which the skin responded to an inflammatory process was by getting red and it was not at all astonishing for that reason that a great variety of clinical pictures grouped under the name erythema should have so many of the etiologic factors that had been enumerated by Dr. Engman in his paper. He did not know whether we as dermatologists should continue for the present to group cases subjectively, namely, according to what we saw, or attempt to group them etiologically. He thought we will have to adopt the latter process if we were to have a clear concept of what we were dealing with, in an etiologic manner.

These cases Dr. Mook referred to were interesting from an etiological standpoint. The speaker recalled one case under consideration at the Vanderbilt Clinic, which was originally seen by Dr. Howard Fox, who sent him specimens of tissue to examine microscopically. In this case the lesions always



appeared at the same site after the patient took a patent medicine called "ex lax." We doubted this, and Dr. Abramowitz, who investigated "ex lax," showed that her erythematous lesions persisted and followed the course that had been previously followed with the other attacks after taking that remedy. The microscopic sections looked precisely like those of other cases of erythema. The pigment was not due to the presence of chromatophores. We worked that out by using a reaction stain. We had a distinct group of lesions, a sub-group of erythema perstans. These lesions persisted and became pigmented, but only one of that group of five or six cases was caused by a particular thing. What the others were caused by we did not know.

For the sake of statistics, we must catalogue skin conditions and try to find out what causes the disturbance; the common causes were toxins which produced erythema, consequently there were more diseases classed as erythemas than any other type of dermatoses we saw. We will have to narrow down gradually, but we can only do it by experience, and the speaker did not think it was important by what name an eruption was called.

## FOCAL INFECTION IN THE ETIOLOGY OF SKIN DISEASE \*

ERNEST DWIGHT CHIPMAN, M.D.  
SAN FRANCISCO

The influence of focal infection in the etiology of systemic disease, so convincingly revealed by Billings, Rosenow and others, suggests a fruitful field for research in dermatology. This is true not only because so many dermatoses are of obscure origin but also because the enunciation of this new doctrine has brought with it a distinct and direct contribution to our special branch of medicine. Its indirect value must largely depend on the application we shall make of the principles it has established.

Possible sources of infection are pyorrhea dentalis, alveolar abscess, acute or chronic tonsillitis, diseased lymphoid tissue of the nasopharynx, lymph nodes of neck and mediastinum, mastoiditis, sinusitis of the maxillary or other accessory sinuses, submucous or subcutaneous abscesses, chronic infections of bronchi and bronchiectasis, chronic infection of gastro-intestinal tract and auxiliary organs of digestion, including cholecystitis, appendicitis, intestinal ulcers and intestinal stasis due to morbid anatomic conditions, chronic infection of genito-urinary tract, including metritis, salpingitis, vesiculitis seminalis, prostatitis, cystitis and pyelitis.

Nor is this all. Infected lymph nodes, as secondary to these primary foci, become additional depots of localized infection. All infections of the head may be associated with secondary infection of the lymph nodes of the neck and mediastinum. These secondary lymph node infections may persist after the etiologic, distal, primary focus has been removed. In 600 autopsies with especial reference to the infection of cervical lymph nodes, Kretz (quoted by Billings) records streptococcic infection of the glands in 90 per cent. of the bodies examined.

From a focus in any of these tissues or organs infectious material may be disseminated by way of blood vessels or lymph channels, causing many general affections, prominent among which are various forms of muscular and joint disease, formerly known as rheumatism, and certain nerve disorders as neuritis, perineuritis, etc. At least two dermatoses have been quite conclusively shown to be caused by such

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dissemination of infection from a primary focus, namely, erythema nodosum and herpes zoster. Of these the former has always been classed with the rheumatic group while the latter has been regarded as some sort of nerve infection.

If we reason by analogy it will seem that the dermatoses which were for a long time supposedly due to the so-called rheumatic state and those which, even today, are associated in some vague way with disorders of the nervous system, may possibly have an origin akin to that of the general condition which each is supposed to typify.

Starting with these two groups we may add one comprising the skin diseases which have for a long time been considered as arising from a tuberculous focus and another consisting of certain streptococcic affections such as impetigo, eczematoid dermatitis, etc., which may originate in some latent focus within the skin itself. In respect to these groups the doctrine of focal infection is not new.

If we accept it as established that anaphylaxis results from focal infection we must consider it possible that the dermatoses caused by hypersensitiveness are ultimately due to focal infection.

Allowing for certain other dermatoses not properly included in any of the above groups we are justified in arranging, provisionally at least, the dermatoses possibly due to focal infection in six groups, as follows:

GROUP 1.—Those considered in some relation with arthropathy: 1, Erythema nodosum; 2, Erythema multiforme; 3, Eczema (gouty); 4, Psoriasis.

GROUP 2.—Those considered in some relation with neuropathy: 1, Lichen planus; 2, Lichen simplex (Vidal); 3, Herpes simplex; 4, Herpes zoster; 5, Eczema (neurotic); 6, Alopecia areata; 7, Dermatitis herpetiformis; 8, Scleroderma; 9, Vitiligo.

GROUP 3.—Those considered in some relation with tuberculosis: 1, Erythema induratum; 2, Lupus erythematosus; 3, Lupus vulgaris; 4, Lichen scrofulosorum; 5, Various tuberculides.

GROUP 4.—Those arising from a focus in the skin itself: 1, Impetigo contagiosa; 2, Infectious eczematoid dermatitis; 3, Various streptococcic infections.

GROUP 5.—Those considered in relation with anaphylaxis: 1, Eczema; 2, Urticaria; 3, Erythema multiforme; 4, Angio-neurotic edema.

GROUP 6.—Miscellaneous: 1, Rosacea; 2, Granuloma annulare; 3, Chilblains; 4, Raynaud's disease.

It is obvious that if all, or even a large portion, of these dermatoses can be traced to focal infection our textbooks on dermatology must be radically revised. This paper does not attempt to establish definitely such connection with respect to any disease. Its aim is to report the observations in fifty consecutive cases belonging to this provisional list of suspected diseases. It records for the most part only the incidence of focal infection in these cases. This list will doubtless be restricted or amplified with further investigation.

Extended discussion concerning all the members of each group is not necessary. If the general principle of focal infection as an etiologic factor in skin disease is granted, a consideration of its possibility in any of the dermatoses mentioned is in order.

So far as Group 1 is concerned the general acceptance of the relationship of a given skin disease with the so-called rheumatic state would, *ipso facto*, place them both in the same etiologic category. The more definite the relationship the more securely is the skin disease fixed in its position. The less definite the relationship the more need of evidence and judgment.

Erythema nodosum, for example, is most firmly associated with the rheumatic diathesis. It is by general consent admitted to this group. Its case may be said to be proven. Erythema multiforme will possibly be admitted without much debate.

Concerning certain eczematous reactions sometimes spoken of as "gouty eczema," there is room for discussion. Of course there is no such specific state as gouty eczema. Eczema occurring in subjects who are prone to suffer from various arthritides may perhaps come under suspicion of originating in the same source.

Psoriasis, while sometimes spoken of as a disease of otherwise healthy individuals, is often associated with the rheumatic state. Its response to seasonal and climatic influences has often been noted. For this reason, and because of its generally obscure etiology, it was thought worthy of investigation along this line. The concurrence of this disease and focal infection has been so striking in the cases already studied as to make further observations worth while.

The dermatoses considered in relation with the nervous system present most interesting possibilities of investigation. For the most part they are made up of sharply defined eruptions, for example, lichen simplex chronica, herpes simplex, herpes zoster, vitiligo, circumscribed scleroderma, etc. Each of these is clean cut; each apparently is in relation with some definite area of nerve supply. If a localized neuritis, expressed clinically as pain, numbness or tingling, results from a focus of infection, why may we not interpret various localized skin manifestations as the result of a like infection, the variety of the cutaneous expression depending on the situation, the degree or some other factor of infection in the nerve?

Certain members of this group demand more than passing notice. The first of these is eczema. While we recognize many eczematous reactions as due to external influences, we see many in which internal factors must be considered. Of these a certain percentage are what some have called neuritic eczema. There are more or less constant elements in the clinical picture of this variety. It has a tendency to symmetrical distribution; it presents sharply circumscribed patches; it



is more resistant to external treatment than other forms. Ehrmann, in his Vienna clinic, fifteen years ago, insisted on the frequent association of chronic appendicitis with this type of eczema.

Alopecia areata has been the subject of much debate with respect to etiology. It is interesting to recall, when we consider it as possibly the result of focal infection, how closely certain facts and theories that have been adduced are connected with the facts as we view them in relation with focal infection. First of all is the work of Joseph and others in experimentally producing the disease by section of a cervical nerve. Next is the relation of diseased teeth as revealed by Jacquet's dental theory. Finally comes the interesting observation of Sabouraud that some cases of alopecia areata are due to nerve pressure from enlarged glands.

The relationship of herpes zoster with focal infection seems established. To quote from Billings: "That herpes zoster may be the result of specific infection of the ganglia of the posterior roots of the spinal nerves and the etiologic infectious microorganisms may be isolated from the infected tonsils and other foci, has been demonstrated with patients in our clinic. With the strains of the isolated bacteria, herpes zoster has been produced in intravenously injected animals and the streptococci have been recovered from the posterior root ganglia of the inoculated animals."

The frequent association of herpes simplex with such acute infectious processes as coryza, pneumonia and certain fevers has long been noted. In cases not associated with any acute infection the existence of some chronic focus may reasonably be suspected.

With respect to the diseases of the skin more or less closely associated with tuberculosis, it is apparent that the inclusion of such a group will widen the list of possible foci to include the lungs, bones and many other tissues.

A careful consideration of the dermatoses originating in some focus within the skin itself may be urged. Recurrent attacks of impetigo, intertrigo, infectious eczematoïd dermatitis, perleche and various other streptococcic infections of the skin are often directly due to transference by scratching from some latent focus in the skin itself as the retro-auricular fold. There seems to be no reason, therefore, why these conditions should not be included in the list of dermatoses sometimes resulting from focal infection.

Of the skin diseases commonly associated with hypersensitiveness, eczema, urticaria, erythema multiforme and angioneurotic edema are conspicuous examples. In many cases the subject comes with a definite knowledge of the offending substances, be it foodstuff, pollen or bite of insect. In some cases a systematic inquiry will determine it; in others no amount of patient endeavor will yield information of value. If

we accept the teaching of present day immunologists that focal infection may be the cause of anaphylaxis, it would seem that every dermatosis which is associated with this phenomenon should be systematically studied with reference to such association.

Beyond these clearly defined groups there are a few miscellaneous diseases in which the occurrence of focal infection has been noted. Among these are rosacea, granuloma annulare, chilblains, Raynaud's disease and doubtless others. The subjoined table will present what evidence was revealed in a limited number of cases.

The statement that thyroiditis results from focal infection may have an important bearing on dermatology. Certain skin diseases are sometimes apparently associated with abnormal thyroid conditions, as urticaria and some forms of alopecia. An interesting association of symptoms which I have several times noted may be worthy of mention in this connection. It is the occurrence in subjects of enlarged thyroid of chilblains and an ischemia of the finger tips, suggestive of a mild form of Raynaud's disease. In none of these cases were the chilblains and ischemia concurrent. There seemed to be rather an alternation. The ischemic condition was noted in individuals in whom the chilblain circulation was apparent and by whom the tendency to chilblains was admitted. That any one or all of these conditions may be caused by focal infection seems worthy of consideration.

Appended is a table of fifty cases which were investigated as far as opportunity permitted with reference to focal infection. A summary of these indicate that:

Of six cases of alopecia areata, five showed infection of teeth and one marked postcervical and postoccipital adenopathy. Of two cases of chilblains each showed infection of teeth. One case of dermatitis herpetiformis showed infection of teeth. Of four cases of circumscribed eczema each showed infection of the teeth. One case of erythema induratum showed infection of the tonsils. One case of erythema nodosum showed infection of the tonsils. Of two cases of erythema multiforme one showed infection of the appendix and one infection of the teeth. One case of granuloma annulare showed infection of the teeth. Of two cases of herpes progenitalis one showed infection of the appendix and one of the maxillary sinus. Of two cases of herpes facialis each showed infection of the teeth. Of four cases of lichen planus each showed infection of the teeth. Of two cases of lichen simplex of Vidal each showed infection of the teeth. Of seven cases of psoriasis five showed infection of the teeth, one infection of both tonsils and teeth while the remaining one was apparently free. A roentgenogram was not made of the teeth in this case for the patient, though over 30 years of age, had apparently a perfect set of teeth and had never had a single cavity to be filled. One case of Raynaud's

disease showed infection of the teeth and tonsils. Of seven cases of rosacea each showed infection of the teeth and one showed in addition an infection of the appendix. One case of psoriasiform seborrheide showed infection of the tonsils. Of two cases of urticaria each showed infection of the teeth. Of three cases of vitiligo each showed infection of the teeth and two cases of zoster likewise showed tooth infection.

## CONDENSED SUMMARY OF FIFTY CASES

	Cases
Infection of teeth alone.....	35
Infection of teeth and tonsils.....	4
Infection of teeth and appendix.....	1
Infection of appendix .....	3
Infection of tonsils .....	4
Infection of lymph nodes.....	1
Infection of accessory sinus.....	1
No infection found.....	1
Total .....	50

These findings will require some interpretation. Either they signify a great deal in respect to the cause of the dermatoses concerned or they simply mean that 98 per cent. of people in general harbor some area of infection. It argues nothing to state that many individuals show foci of infection with no apparent clinical consequences. Doubtless much more complete and specialized statistics will be required. If, for example, forty-nine out of fifty cases of any single disease could be reported as showing focal infection it would be of great significance. These statistics, however, may be suggestive of the broad field that awaits fuller investigation.

One circumstance observed in several cases of this series merits special remark, namely, the tendency to the development of symptoms on interference with an active focus.

In the case of erythema induratum, for example, there were markedly diseased tonsils. In spite of this the lesions were healed under the influence of local and general treatment. This was three years ago. Three months ago the tonsils were removed and shortly thereafter a recurrence of the indurated nodules was noted.

The onset of the lesions in the case of psoriasiform seborrheide was noted during the convalescence from an operation for infected tonsils.

In one case of rosacea a marked exacerbation followed active treatment of an apical abscess. This, however, soon subsided and was followed by a corresponding improvement.

In one of the cases of neuritic eczema in which two apical abscesses were treated, a slight exacerbation followed the interference with the teeth. This was followed by a month in which no progress was made,

at the end of which interval the condition spontaneously resolved. During all this time the external treatment was purposely unchanged.

The development of the single case of circumscribed scleroderma followed closely on the removal of infected tonsils. This operation was incomplete and the stumps remain in a palpably infected state.

One of the cases of erythema multiforme occurred during the patient's convalescence from an operation for chronic appendicitis with adhesions.

Another point worthy of emphasis is that it is not necessary to find the same microorganism in the skin lesion that is found in the original focus in order to suspect the latter of being in etiologic relationship with the former. The result may be brought about through the medium of the nervous system. In experimental zoster, for example, streptococci are found, not in the cutaneous lesion but in the posterior root ganglia, and in macular leprosy the Hansen bacillus is not found in the skin but in the nerve tissue.

That cure of a cutaneous reaction does not always follow promptly on the removal of a suspected focus signifies nothing for the reason that secondary foci may remain.

It would seem probable that the effect of focal infection on the skin is specific in some instances and not in others. In zoster, for example, the action is apparently specific. In acne, on the contrary, if there be any relationship it seems indirect, through a lessening of resistance in general. While acne was not included in this series several cases have been noted to improve while others have seemed to be accentuated after tonsillectomy. In each instance, however, the improvement, or the reverse, has seemed to depend on the effect of the operation on the subject's general condition.

Viewed in this light it is conceivable that the indirect effects of focal infection may extend over a wide range of skin reactions.

No.	Disease	Site of Infection
1	Alopecia areata.....	Apical abscess
2	Alopecia areata.....	Apical abscess
3	Alopecia areata.....	Infected lymph nodes
4	Alopecia areata.....	Teeth and tonsils
5	Alopecia areata.....	Apical abscess
6	Alopecia areata (beard).....	Pyorrhea
7	Chilblains .....	Pyorrhea
8	Chilblains .....	Apical abscess
9	Dermatitis herpetiformis.....	Apical abscesses
10	Eczema (neuritic).....	Apical abscesses
11	Eczema (neuritic).....	Apical abscesses
12	Eczema (neuritic).....	Apical abscesses
13	Eczema (neuritic).....	Apical abscesses
14	Erythema induratum .....	Tonsils



15	Erythema nodosum .....	Tonsils
16	Erythema multiforme .....	Pyorrhea
17	Erythema multiforme .....	Appendix
18	Granuloma annulare.....	Pyorrhea
19	Herpes progenitalis .....	Appendix
20	Herpes progenitalis .....	Maxillary sinus
21	Herpes labialis .....	Apical abscesses
22	Herpes labialis .....	Apical abscesses
23	Lichen planus .....	Apical abscesses
24	Lichen planus .....	Apical abscesses
25	Lichen planus .....	Apical abscesses
26	Lichen planus .....	Apical abscesses
27	Lichen simplex chronica.....	Apical abscesses
28	Lichen simplex acuta.....	Apical abscesses
29	Psoriasis .....	Negative
30	Psoriasis .....	Pyorrhea and abscess
31	Psoriasis .....	Apical abscesses
32	Psoriasis .....	Apical abscesses
33	Psoriasis .....	Apical abscesses
34	Psoriasis .....	Apical abscesses
35	Psoriasis .....	Apical abscesses and tonsils
36	Raynaud's disease. ....	Apical abscesses and tonsils
37	Rosacea .....	Pyorrhea and abscesses
38	Rosacea .....	Pyorrhea and abscesses
39	Rosacea .....	Apical abscess
40	Rosacea .....	Apical abscess and tonsils
41	Rosacea .....	Apical abscess and appendix
42	Rosacea .....	Apical abscess
43	Seborrheide (psoriasiform).....	Tonsils
44	Urticaria .....	Apical abscesses
45	Urticaria .....	Pyorrhea and abscesses
46	Vitiligo .....	Tonsils
47	Vitiligo .....	Apical abscesses
48	Vitiligo .....	Apical abscesses
49	Zoster .....	Apical abscesses
50	Zoster .....	Apical abscesses

## DISCUSSION

DR. SUTTON said that this subject which had been brought before the Society stimulated the suggestion that cutaneous lesions could result from focal infections, as apical granulomas, apical abscesses and chronic tonsillitis. The four points that we usually looked for in these chronic infections were the teeth, tonsils, appendix and prostate in man, and often one could locate the source of infection in one of these four places.

During the past year through the coöperation of colleagues, they took 100 cases of skin diseases, and in 25 per cent. of them they were unable to trace any direct relation between the focal infection and cutaneous disease, but 75 per cent. of the cases were improved markedly or completely after finding the focus of infection and removing it.

The speaker presented Roentgen-ray films of a few cases before the Society.

One was a case of lichen planus labialis, with multiple granulomas. In this case the removal of the foci of infection was followed by a cure. In every case the cures extended over a period of five months or longer, where there were multiple granulomas around the roots of teeth.

Another was a case of chronic eczema of the limbs in a man, 50 years of age, which failed to respond to any treatment until his teeth were cleaned up.

Another was a case of chronic urticaria of the recurrent acute type in a woman who had been treated more or less continuously for five years, but she had been free from the disease since last November.

The speaker presented another set of slides showing vesicular and pustular eruptions of the feet. He had had two or three cases of vesicular eruption in which the disease attacked the soles and margins of the feet, and had recurred. There was nothing demonstrable except the staphylococcus. One man had joint symptoms which cleared up after the infected or decayed teeth were removed, and the skin eruption disappeared within forty-eight hours, and he had had no trouble since.

Another case was one of successive attacks of erythema multiforme. This woman was seen first in 1916, but shortly after the removal of the focal infection in her case the skin manifestations cleared up and she had been free from them since.

Another was a case of a physician who had considerable trouble due to defective teeth. Two of his teeth were treated and two were extracted with gratifying results.

They did not hesitate, said the speaker, to advocate the use of a vaccine from the organism, which was the streptococcus viridans almost invariably, in the chronic cases that did not apparently respond to the removal of the foci of infection.

DR. MACKEE said that evidence was accumulating to show that focal infections were the direct or indirect causes of several if not many dermatoses. The relationship had not been proved but the fact that such an affection as erythema nodosum was due to the streptococcus from the circulating blood and the fact that many cases of acute and chronic skin disorders had disappeared after the removal of a pus focus was certainly suggestive. Dr. Chipman deserved credit for presenting the subject to the Association for discussion and he was to be congratulated not only for his excellent observations but also for the conservatism with which they were presented.

While fully cognizant of the importance of focal infection the speaker thought there was danger of the pendulum swinging too far the other way. He particularly desired to emphasize the dangers of radiography—especially as related to faulty interpretation. The speaker had examined the dental roentgenograms presented by Dr. Sutton and he agreed with Dr. Sutton's interpretation in every particular. On the other hand, he had frequently seen dental roentgenograms on which the dentist or the roentgenologist had carefully indicated, by means of an arrow, an apical shadow which was thought to be a pus pocket. On careful examination the shadow was found to be caused by some normal anatomical structure, by a faulty angle of incidence, by distortion, etc.

Interpretation of roentgenograms required considerable experience and a fair degree of common sense. Furthermore, the roentgenograms should be of good photographic quality and roentgenologically accurate. The angle at which they were taken was of the utmost importance and a knowledge of all possible errors was necessary to allow of a proper interpretation. One should be familiar with the overlapping shadow of the antrum, of the nasal fossæ, of the inferior dental foramina, etc., for these shadows often markedly simulated those of apical abscesses. In suspicious cases it was always wise and in some instances indispensable to take several roentgenograms of a tooth at different angles, both in the mesio-distal and the superio-inferior planes. This would not only prevent artifacts and anatomical shadows from being mistaken for abscesses but it would prevent a "hidden" abscess from being overlooked. The superior second bicuspid had two roots and the upper molars possessed from one to three roots. In a single roentgenogram the shadows of two roots of a tooth might be superimposed and an abscess obscured. Roentgenograms taken at different angles would prevent such a mistake.

One more point. Should every dark shadow around an apex be regarded as an active infective focus? A dark shadow simply indicated lessened density—decalcification. For instance, a patient might have had an abscessed tooth twenty years ago at which time it was treated and finally filled and gave no more trouble. In such an instance could one state positively that the dark shadow represented infection? Might not the bone at the site of the former trouble be anatomically abnormal without the infective process continuing for twenty years? These were points on which dentists had failed to agree and they were worthy of consideration and investigation.

The point that the speaker wished especially to emphasize was that one should hesitate to depend exclusively on the roentgenogram. The roentgenogram should be taken and studied by one who was properly experienced in both technic and interpretation and the findings should be added to the clinical or dental data accumulated by a modern dentist who was fully cognizant of the importance of arriving at a correct conclusion.

Unless we guarded against faulty interpretation, overenthusiasm, etc., psoriatic and acne patients would be losing teeth unnecessarily.

DR. ZEISLER said that the paper of Dr. Chipman was so full of suggestions and so rich in material, that he believed very few of us will go away without taking something along to think of. We should be on the lookout in the future in any case where the etiology is obscure to see if we could find help from looking for a focal infection. The speaker could not help, however, while listening to the paper, to think of various periods in dermatology that we had gone through. He had in mind particularly one matter of over thirty years ago, which was characterized by the attempt to trace all eruptions of the skin to the influence of nerves, and from that time there originated the handbook by Kupp, of Muenchen, on the tropho-neuroses of the skin. It was not safe to try to force the etiology of all skin diseases in one certain scheme. We must be open to the knowledge that various causes may be able to produce the same picture.

Some emphasis was laid in this paper in quoting Dr. Billings in regard to herpes zoster. A typical case of herpes zoster will follow the use of arsenic, so-called arsenical zoster, and how shall we harmonize these things? The speaker believed there was great value in discussions of this sort. They should stimulate us to carefully examine every individual case, but from a different point of view. Dr. MacKee had warned us against the possibility of generalization. We must not try to enforce the whole scheme of the etiology of skin diseases into this one paradigm.

DR. ROBERT H. DAVIS said that he recalled a case of dermatitis herpetiformis that came under his observation which nothing seemed to help, and finally he noted the man had pyorrhea alveolaris. He found the entameba and gave emetin, and the dermatitis herpetiformis healed immediately. That encouraged him to examine other cases, and during that spring all cases of dermatitis herpetiformis that had pyorrhea alveolaris were treated in the same way. There were six or eight cases altogether. There were no cases that did not get well. Of those that recovered, a few remained well, but some recurred, and with each recurrence the cure with emetin was progressively harder. In some of those in which the disease recurred they could not find the entameba, but it would seem that while the focal infection was the cause of the symptoms of dermatitis herpetiformis, there must have been some other infection as the cause of the recurrence.

DR. SCHAMBERG said that Dr. Chipman deserved great credit for bringing this subject to the attention of the Association. The speaker was fully in accord with the two last speakers in the expression of the sentiment that while doubtless many skin affections were due to focal infections, yet we must be careful not to credit to a large extent these factors in the causation of any of the diseases of the skin. Dr. Chipman very properly inserted in his paper



as a reservation that these factors might on further experience be limited in their application to the causation of skin diseases, or they might be extended. There was always with the injection of any new method of therapy or any new idea as to etiology, a tendency on the part of some to extravagant and exaggerated claims. On the other hand, on the part of others there was undue incredulity and skepticism, and, it seemed to him, as the members of a scientific body we should endeavor to steer between Scylla and Charybdis. There was no doubt that many cutaneous affections were due to focal infections. The speaker mentioned a well-known textbook in which the author stated that a case of long standing urticaria in a woman did not disappear until after the excision of pyosalpinx. We know that cases of herpes simplex occurred dominantly in certain infectious diseases. We know, for instance, that herpes simplex was so common in epidemic cerebrospinal meningitis, malaria and pneumonia, that it was a diagnostic symptom of no mean import. On the other hand, with another infection in particular, typhoid fever, it was so rare that it was almost negatively pathognomonic, if one may so express it.

He believed that we should go away with the thought that wherever the etiology of any skin affection was obscure, a possibility of some cryptic infection should be considered and thoroughly studied.

If any of our cases should come to necropsy, there was one word of caution which should be mentioned. This, of course, was well known to pathologists, namely, that there was after death, very commonly, a postmortem diffusion of micro-organisms, such as the streptococcus. Streptococci may be found in various organs which did not exist in these organs prior to death. He believed the better general practitioners we were, the better specialists we were going to be, because great advance in the science of medicine was only possible through specialization, yet there was always danger of looking at spots through the spectacles of our own specialty.

DR. ENGMAN said that there was no doubt that a paper, such as Dr. Chipman had presented, was very suggestive and will help to clear the field of focal infection. He had gone over a great many diseases which belonged to this group and some which did not. Certainly, focal infections will prove to be a great etiological factor in skin diseases. We did not know where it will reach, and in the study of the cases of disease we must look to all points and all possible sources for etiological factors.

There had been an intensely interesting study carried on at Washington University, St. Louis, and at the Barnard Skin and Cancer Hospital, where they had had some striking illustrations. There were two cases which the speaker said he would like to recite as illustrating this group of diseases.

One of these patients was a man who was seen nine years ago, who had a superficial gangrene of the fingers and gangrenous spots on the penis with Raynaud's phenomena of both hands and feet. He was treated in every possible way; we thought it was syphilitic. He disappeared for a time. He returned after nine years with his toe nails extracted, and the nails on his hands and fingers were scarred, but he was still having some trouble. In the meantime, focal infection had been studied and it was found that he had an awfully foul mouth. His mouth was entirely cleaned up, eliminating a condition he had had for about twelve years—a constant, virulent, intermittent infection. Immediately after his mouth was placed in good condition, some of his teeth filled and others extracted, his whole objective and subjective symptoms disappeared. He remained well for some months. No doubt this case was due to intermittent poisoning from the gingivitis and pyorrheal abscesses. A focal infection may become latent.

We have one instance of a woman with focal infection from the sinuses, presumed to have existed or started twenty-five years ago, with rheumatism and endocarditis. She came to the hospital with gangrene. We saw her at other times with slight gangrene of the fingers. After several years she had complete gangrene of the anterior portion of the foot. In her blood was



demonstrated the *Streptococcus hemolyticus*. She had had endocarditis, and the whole trouble originated from the focal infection some years ago.

We have had about eight or ten cases illustrating the value of recognizing focal infections. We must grasp the fact that focal infections may exist for many, many years, and every now and then we will see a case, such as Longcope had pointed out, in which there was a certain type of nephritis, after intermittent and more or less constant infection, causing a specific action on the kidneys. When this occurred, frequently the selective action caused certain eruptions of the skin. The speaker thought we must be sane about this thing, but every phase was worthy of study because it was really a new branch for investigation.

DR. MORROW said that anything which will throw light on the subject of eczema deserved consideration. For a long time he had been having radiographs made of cases of dermatoses which resisted ordinary treatment, and he would like to mention two or three examples of eczema, one having eczema of the face and the neck during the course of many years. The skin was thickened and inelastic and the man suffered a great deal from violent pruritus. The condition of his mouth was very bad. Radiographs showed multiple dental abscesses. These abscesses were so large as to necessitate extraction of the teeth, and within a few hours from the time the infected teeth were extracted the man felt much better, and in a few days the rash had almost disappeared. From that time the eruption disappeared slowly, and in the course of a few weeks vanished entirely.

Another patient had a generalized erythematous and vesicular eczema, lasting for a number of months and the patient complained of pain in one ankle joint. After observation in the hospital the surgeon decided to open the joint. He did so and pus was found. As soon as the pus was drained the generalized eruption disappeared rapidly. The wound failed to close readily. More pus formed in the joint, and in the course of a few days he had another exacerbation of a generalized eczema. The joint was again opened and pus drained, and the eruption again disappeared rapidly. This was some three or four months ago. The joint was entirely well, and since then there had been no recurrence of the eczema.

These two cases were reported because they are unusual. The speaker had a number of other cases of eczema that did not show focal infection, but where they were chronic he thought it was worth while to investigate these foci.

DR. HEIMANN said he was asked to see the father of a colleague in New York who presented a typical picture of a case of pityriasis rubra of the Hebra type. He had the cutaneous manifestations of the disease, glandular enlargement, eosinophilia, and general emaciation which accompanied the disease. He gave the usual prognosis. He was nearly 60 years of age, and his occupation was that of an orange planter in Florida. His teeth were examined as a last resort and found in bad condition. To make a long story short, the carious stumps of teeth he had were extracted, and within two weeks the man was well and had been well since. It is now three years since the teeth were extracted.

The speaker thought we sometimes hit on the cause of focal infection which caused dermatoses by accident. Tuberculosis was a striking instance of a condition that we did not understand very well. He did not doubt that a great many cutaneous reactions, representing all sorts of clinical conditions, which we designated objectively as herpes zoster, lichen simplex, eczema, or psoriasis, were possibly due to local foci of one kind or another—streptococci or staphylococci. We had gained considerable knowledge relative to these organisms. We knew that the teeth, tonsils and appendix were sources of infection. Galloway proved, in 1912, the relation of a certain number of cases of erythema nodosum to rheumatism. We knew the work of Rosenow, which had been accepted or rejected for what it was worth. At the Detroit meeting of the American Medical Association this entire matter was gone into exhaustively

very much as Dr. Chipman had done. Certain things stood out, however. He did not doubt that focal infections perhaps were responsible for some of the conditions we recognized in dermatology. Let us take herpes zoster. We knew that typical cases of herpes zoster—and that was a matter he emphasized a year ago—was due to arsenic, as Dr. Ziesler had pointed out, perhaps due to all sorts of undiscovered combinations; but the species of herpes zoster that were objectively typical, as well as atypical in their course, which occurred once in a man's lifetime, conferred permanent immunity on the subject. How a focal infection which caused a disease like herpes zoster could confer immunity, or how a definite disease like psoriasis could be due to a simple reaction, to a hidden toxin, to a focal infection, was beyond him. He thought psoriasis and lichen planus were definite clinical entities, etiologically and clinically, as syphilis. Syphilis was due to one organism. It was no cutaneous reaction, neither to his mind was lichen planus or psoriasis.

Taking up the question of chronic lichen simplex, or pruritus, followed by lichenification; twenty years ago, when that was first described, it was considered a neuropathic disease belonging to the group Dr. Zeisler referred to. That was not the case. What we knew definitely about the disease was little. It started with itching in certain localities, and after the itching had existed for some time lichenification of the skin set in. What the disease was due to, he could not say. It did not act like a disease due to a hidden focus of pus somewhere. It was more likely a metabolic disturbance, perhaps a thyroid gland disturbance, or disturbances of a combination of the glands, and so on.

We knew of pyogenic skin diseases which had their origin in these focal infections. Cutler pointed out ten years ago a great many staphylogenic and streptogenic infections of the long bones occurring in people who had a mild acne. The explanation was that the organisms were conveyed through leaking into the blood to the bones, which subsequently became diseased.

There was great danger of overenthusiasm because this entire matter offered so much to us. Overenthusiasm had been characteristic of everything in medicine. Twenty years ago everything was explained on the basis of malaria. Then it was uric acid. The next year it may be focal infections or something else.

DR. MOOK said he agreed with everything that Dr. Chipman had said. A number of gentlemen mentioned herpes zoster as a result of focal infection. He thought every one had seen the herpetic reaction that occurred following the use of salvarsan. The skin reaction had a good deal to do with many of these phenomena as well as focal infection.

DR. RAVITCH said that in his paper last year on focal infection he called attention to the fact that not infrequently skin reactions were due to focal infection, particularly herpes zoster. He examined every case for the possibility of some skin reaction due to focal infection, and the more he studied the cases the more he was convinced that focal infections were not responsible for all the skin reactions we saw.

There was one point he would like to call attention to in connection with alopecia areata, and it was this: in over a dozen cases of alopecia areata he found half of them were due to defective sight, and after the defective vision was corrected the alopecia got well.

DR. HARTZELL said it ought not to be necessary to call attention to associated conditions which represented cause and effect. So common a condition as an abscessed tooth at one time or another was sure to be associated with all sorts of things, and it did not follow that because a man had eczema and, at the same time, had an abscessed root, that the one was the cause of the other. He would not be misunderstood as denying the fact that focal infections were frequently the cause of certain diseases of the skin, but he did think we should be cautious in pronouncing cases of skin diseases as due to

focal infection. He said he must confess, that he could hardly believe that herpes zoster was the result of focal infection to the extent that had been admitted here. Furthermore, there had been considerable talk about focal infection being the cause of simple herpes. An intimate friend of his, a distinguished teacher in the University of Pennsylvania in the college department, could produce at will a simple labial herpes if he ate cheese for dinner. You may call that a focal infection.

On the other hand, he recalled the case of a man he saw some three or four years ago, who began to present vague symptoms of ill health. He grew worse from month to month. He had, at times, pains in his chest and various other parts of the body, and as the good book says, he suffered many things from many diseases, all in vain. By good luck, he fell into the hands of a distinguished member of the dental profession who discovered he had an infected antrum. After the antrum was thoroughly drained his symptoms began to subside. The way he came into the case was, he had a very severe pustular eruption on the palms of both hands, small pustules not larger than a hemp seed, which gave him great distress. All of these symptoms slowly but certainly disappeared. When he saw him last he was a well man. Here we had a whole group of symptoms, some of them vague, some distressing, and along with them a pustular eruption of the palms of the hands, probably due to focal infection, but he was not willing to believe, as he had previously remarked, that every man who had an aching tooth was sure to have eczema, or that every man that had eczema was sure to have a mouth full of decayed teeth which was at the bottom of these cutaneous troubles.

DR. PUSEY said he would call attention to the fact that Dr. Chipman was suggesting lines of thought about focal infection causing skin disease, making very few positive statements, but he thought, as Dr. Chipman did; and as we were going over this matter his mind reverted to another connection, namely, the internal secretions were being invoked very much more enthusiastically, but no more rationally, as the universal cause of dermatoses. It seemed to him the real fact was, he was sure Dr. Chipman intimated no more, that these things were, at best, but steps in our progress of knowledge, but they did not represent, as many men seemed to think and believe, the final step in our knowledge of these questions.

DR. HAZEN said there was one phase of this subject that was not touched on for some reason, and it was this: He thought we all realized that certain skin diseases were associated with or were due to disturbances of the internal secretions. Furthermore, he thought we all recognized that certain disturbances of the internal secretions may be due to focal infections—not all, but certain ones. We have begun to realize that certain disturbances of the skin which follow, probably come from mouth infection. Certain diseases of the skin associated with nervous disorders known as vagatonia were due to focal infection.

DR. POLLITZER said he did not think there could be any question as to the possibility of certain dermatoses being dependent on chemical changes brought about through the presence of infectious organisms in various limited localities of the system. What he rose to say especially was this: The method that was followed in the study of this subject was the statistical method. We took a certain number of cases of alopecia areata or of herpes zoster and had the patients examined carefully and note whether they had pus infections of the teeth or infection of the tonsils, and put that down. Then we find, perhaps, a considerable percentage of cases with alopecia areata or herpes zoster have had some kind of focal infection. If that proportion was a large one, as the reader of the paper said, the thing became very significant. If we are going to use the statistical method simply, we should use it completely if we were going to depend on it. We should get the statistics of some infections in people who had not been affected by alopecia areata. You take 100 cases of alopecia areata and find in 62 of them there were bad teeth, and 12 had infected



tonsils. That meant nothing because, in the first place, the practical association between that kind of thing and a small patch on the scalp from which hair was falling, was rather remote. He could not see any possible connection. We must be reasonable, we must be logical, in making these deductions. If, on the other hand, we took 100 cases of alopecia areata and found that 100 of them had focal infections of the teeth, or if we took 100 cases of scabies and found in 72 of these people there was present infection of the teeth, the whole argument fell to pieces. That was what he meant by following the statistical method logically, and he thought it should be done before we depended on any conclusions that were drawn on the basis of present-day knowledge.

DR. McEWEN said that there ought to be a distinction made between foci that were working under pressure and foci that were draining. As he understood, internists did not attribute generalized disease to foci which were draining to any extent. Unless foci drained, you may have complicated chemical changes taking place, but every focal infection may not be under pressure.

DR. CHIPMAN said he coincided with the remarks made by Dr. Pollitzer. and he believed he expressed that idea in the paper, namely, if statistics were to be of any value we must check them up with controls. In other words, we have taken only fifty cases at random and have run them down. He was not trying to prove that cutaneous affections were due to focal infection, but spoke rather as a protest against the doctrine of *laissez faire*. We had a number of diseases whose etiology was unknown. What were we going to do—were we going to throw up our hands, or should we investigate the possible cause or causes and run them down so far as we were able to do so?

Dr. Zeisler spoke of herpes zoster, and it seemed to be the central point in this discussion. His idea of zoster was that it was due to nerve irritation, and may be chemical as well as toxic.

The speaker mentioned the substance known as phylacogen, which was originated in California. It was very crude and empirical. In one special case of lupus vulgaris, which was a sort of forlorn hope, he was induced to inject some of this agent into the patient, and within a day or two there appeared a herpes zoster as typical as any one could wish to see, so that he felt perfectly clear in this case as to the etiology, not perhaps as a specific cause of zoster but in general.

In regard to some other dermatoses, he fully anticipated in reading this paper that we should have reference made, to the swinging of the pendulum too far. He expected that, and he guarded against it with all the reservation of which he was capable, stating as precisely as possible that nothing definite was claimed. He presented a few cases which were run down, and he knew they would have been more valuable if we had controls, and that as they stood they were merely suggestive.

He was sorry he did not say more about acne because it was in line with one of the thoughts he tried to emphasize, namely, the effect of interference with the focus of infection. He regretted that no one spoke of that in the discussion. That was one of the suggestive points. If we had a tonsil taken out completely, the patient may get well, but if we only partially removed the tonsil by the old method, that patient could have a reinfection of the remaining stump. Again, if we burrowed into a dental abscess and stirred things up, opening the blood vessels and lymphatics, that patient was likely to have an exacerbation, and following that, an exacerbation of the cutaneous disease, and subsequently there may be improvement in the condition. It seemed to him that was very suggestive of an etiological connection.

The speaker wanted to make this point absolutely clear, that here was a survey of cases, not a large number, and nothing positive was claimed. He did not want to convey the impression that he thought every cutaneous manifestation was due to diseased teeth or diseased tonsils, and that we should let the matter go at that. There were other hidden foci. In doubtful cases



we should investigate the sinuses, the appendix, the seminal vesicles, and, by the way, the last was a very common source of infection.

Dr. MacKee cautioned us in regard to the findings of the radiographer. The speaker had been confronted with that, with relation to the teeth and other things. He recalled a case of herpes progenitalis in a young chap who had a history of repeated attacks of choroiditis. He was seen by three practitioners, one of whom made a perfunctory examination and said everything was all right. The roentgenogram was negative; there was nothing apparent as far as could be discerned. His clinical condition, however, was so suggestive that he was sent to another radiographer, and the roentgenogram revealed an abscess of the antrum. The first radiographer did not take a picture from the right angle, showing that if we made a perfunctory examination and were satisfied with one roentgenogram, we may not be able to locate the focus of infection, whereas, if we got at the case and made a thorough examination, we will doubtless find the source of infection.

## GLYCERIN

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The clear, oily, trivalent alcohol, glycerin, is rarely employed alone as a medicament. In association, however, with other materials it has a large number of uses.

It is freely miscible in all proportions with water and with ordinary alcohol, it mixes well with all the ointment bases, and is an excellent solvent.

Glycerin is hygroscopic and attracts water from the air. This property is taken advantage of in the application of external remedies, as through this quality and by its oiliness the skin is kept moist, and the associated medicament is held applied to the skin. If, for instance, it is desired to prescribe a parasiticide as a lotion and to keep it applied steadily to the skin, one cannot do so either with water or with alcohol alone, as these quickly evaporate and leave the powder on the surface, from which it readily falls. Such a preparation would lack intimate application and durable action. For example, in prescribing mercuric chlorid in this way for tinea versicolor the effect would be almost inappreciable. By adding glycerin, however, the skin is kept moist and the medicament is retained. Such a prescription would be:

℞ Hydrarg. bichlorid.....	gr. viii
Glycerin.....	℥ ss
Spts. vini rect. dil.....ad	℥ viii
M. Sig.: Rub well in, once a day.	

At times glycerin is added to a lotion to give it body and a slight unctuousness without being greasy. Many of the popular toilet lotions owe their popularity in good part to the contained glycerin. One of the best lotions for roughness of the hands, as in chronic eczema, is composed of caustic potash (KOH), glycerin, alcohol and water:

℞ Kali caustic.....	1.00
Glycerin .....	
Spts. vini rect.....āā	66.00
Aq. ros.....ad	200.00
M. Sig.: Use on the hands once a day.	

Alcohol has long been recognized as an excellent dressing for suppurating lesions, long before its antiseptic qualities were appreciated. Straight alcohol acts too irritatingly and in the older days it was employed as wines. Now-a-days, instead of wine, we use dilute alcohol,

which means that it is combined with equal parts of water. This is quite strong enough as an antiseptic, and, as far as the skin is concerned, has the admirable quality of cutting the cutaneous fat, which so often protects the microorganisms from the other antiseptics. Instead of using water as a diluent, glycerin may be employed, and Jessner, for instance, advises the use of what he calls alcohol-glycerin (3:1) as a dressing for furuncles. This makes a smooth fluid of high antiseptic value, and the hygroscopic nature of the glycerin exerts a definite pull on the secretions in the furuncle.

The behavior of glycerin to starch is interesting. If these two substances are boiled together they form a smooth, translucent paste called a glycerol, which was at one time much employed as a base for topical applications in place of the fatty bases. Glycerol, however, is sticky and because of being hygroscopic, it is wet and cold. There is one kind of skin, however, on which it answers admirably, the ichthyotic. Years ago I ran across a recommendation by Laillier for its use in this condition, and it has been an almost constant source of satisfaction. The prescription runs:

R Amyli .....	30.00
Glycerin .....	300.00

Cook together in a porcelain dish and, just as the mixture jellies, add:

Aq. lauro. cerasi.....	15.00
M. Sig.: Apply to the roughened skin.	

To the above may be added salicylic acid or resorcin, or liquor carbonis detergens, to meet any indication that may be present.

The mode of applying this Laillier's paste is not indifferent. If it is rubbed on in large quantity it makes the skin gummy and wet. The correct way is to touch the tips of the fingers on the jelly and to pass the moistened tips over the affected skin so that only a light film is spread over the surface. This keeps the skin sufficiently moist and soft, and does not waste the preparation.

Pastes made with glycerin are important.

Pastes, like ointments, are mixtures of powders with fats, but with the notable difference that a greater quantity of the powder is present. In a paste, as a general rule, the powder or powders equal in amount the fatty medium. These pastes are usually lighter and they are more porous and more absorbable than ointments, and therefore act better than ointments on a hot or an exudating surface. Vaseline is the fatty base usually prescribed in ordering a paste, but glycerin may be employed. Such a prescription would be:

R Amyli .....	
Zinci ox.....	15.00
Glycerin .....	30.00
M. Sig.: Apply by spreading on with the hand.	

The above makes a white preparation of the consistency of white paint. It forms a pliable, adherent, white layer that is neither greasy nor dirty. It protects the surface from injury and holds the papules of a papular eruption as in a splint, and at the same time it allows the free egress of any discharges, and it does not interfere with the natural secretions of the skin. In making this preparation the druggist should be warned not to boil the glycerin and starch together, as is the case in making glycerol. If so boiled a crumbly mass is formed, quite without adhesive qualities.

The zinc oxid glycerin jellies form another set of preparations that, when judiciously employed, give excellent service. A formula that I have found excellent consists of:

℞ Gelatin .....	46.00
Zinc oxid.....	28.00
Glycerin .....	12.00
Aq. ad.....	114.00

Heat the water and dissolve the gelatin in it, and then add the glycerin and the oxid of zinc and stir until cold.

This makes 200 gm., a little over six ounces, which is a convenient amount to dress a surface equal to that of both legs.



## THE RELATION OF FRUIT INGESTION TO CUTANEOUS DISEASES

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The biblical story of Eve and the fruit, like most primitive tales, has in oral tradition been associated with the fruit of one special tree, thus leaving a wide margin for diversity of opinion as to the special tree meant. Looked at in its broader aspect so as to include the majority of fresh fruits, and the curse still holds good.

I think it may be taken as a truism, that if all fresh fruits were stricken from the dietary, one third of the sickness incidental to childhood and early life would be eliminated. I do not mean to imply that all fresh fruits are bad, but so many of them are unwholesome in the raw state that the statement holds good nevertheless. Paeans and pages have been written in praise of fruit, and volumes of the same in praise of liquor, and the one eulogy is as near the truth as the other.

Dr. Boteler, speaking of the strawberry said: "Doubtless God could have made a better berry, but doubtless God never did." Obviously the good doctor had not suffered from the hives, and being human as we are, he generalized from his own experience and probably treated the public accordingly.

Linnæus was a martyr to the gout and cured himself by the liberal use of strawberries; the virtue of the remedy was ascribed to the potash in the fruit exerting an alkalinizing and diuretic effect. Later, when the presence of salicylic acid was demonstrated in the fruit, part of the value was considered due to that, but the quantity seems too small to have had any influence. Perhaps the combined chemical ingredients had some value but we, nowadays, who consider gout as a disease of metabolism, are more disposed to credit the cure to the substitution of the strawberry for the meat.

Fruit cures, like the present grape cure craze, are in reality simply starvation cures and are only of value to the idle rich, the overfed, or the underexercised. The bath cures of continental Europe are fashionable methods of starvation, supplemented by mild eliminatory remedies. The popularity of the German and Austrian spas would rapidly fade if beer and over-indulgence were avoided. They are absolutely useless to any individual with a waist line under 35 inches.

Of all our California fruits the orange is the most deleterious. The strawberry outranks it as a cause of urticaria but the orange is

more prone to cause the furred tongue, cloyed appetite and general depression, a symptom group that in our present state of knowledge is classed as biliousness. Now, it is reasonable to assume that any fruit that is liable to cause urticaria contains in itself some element that may at any time prove unwholesome. With many people urticaria frequently follows the ingestion of fresh fruit. This disease as well as many of the eczemas of childhood are in reality but the expression of the anaphylaxis produced by the protein in the fruit. Why the small amount of protein in these fruits should cause anaphylaxis when a beefsteak does not, naturally suggests that the protein in the fruit is in a different chemical form, or, as is more probable, the protein when liberated from the cellular structures carries with it some ingredient from the cellulose that in some manner modifies its action. Be that as it may, the evil lies wholly in the pulp or cellulose, the juice is perfectly wholesome. Another feature of this cellulose protein poison is its liability to cause convulsions in children. It is not at all uncommon to be hurriedly called to see a child in convulsions who a few hours before had swallowed a few laths of an orange. The old theory that the convulsions in these cases were wholly due to simple intestinal irritation will not bear scrutiny, as inert bodies of equal bulk and consistency do not usually produce any untoward results. In these cases the convulsions are the result of protein poisoning and are probably a phase of anaphylaxis. Probably all convulsions in children not typically epileptic are due to the same cause.

Oranges exhibit their poisonous qualities most intensely when eaten fresh off the tree. When cold stored for a few weeks they lose these poisonous qualities and may then be eaten with impunity.

Cooking, so far as I have observed, renders innocuous the proteid elements in all fruits and most vegetables. Among the latter the Mexican or so-called Boston bean is an exception. It is a matter of ancient observation that the use of grain mixed with the seeds of certain peas (*Lathyrus*) may give rise to a form of paresis known as lathyrism. I have seen no reference to such effect following the use of the common bean unless the "un poca" and "mañana" habit of our neighbors be considered as incipient symptoms. I have on various occasions attended Mexicans for what seemed to have been typical epileptic convulsions that followed a feast of the ordinary fried beans. These attacks I have considered due to protein poisoning, as ordinary food, even in excess, rarely induces convulsions in the adult.

Glucose, a common commercial product, is destined to be classed among the undesirable foods or luxuries. This substance is largely used by confectioners for stiffening purposes in the manufacture of the so-called chocolate creams, and to this glucose are to be attributed

the digestive disturbances that follow their use. Chocolate and sugar in themselves are digestible enough, so the chocolate and sugar are certainly not at fault.

To return to the fruits: the skin is the mirror that reflects, on the human metabolism, the ultimate influence of the food, and judged from that standpoint, among the small fruits the strawberry is the chief and practically the sole offender. The raspberry rarely gives trouble, the blackberry not at all. Of the larger fruits the orange has already been criticized, next in order of unwholesomeness come the peach, apricot, plum and cherry. Pears, apples, grape-fruit and grapes seem to produce no anaphylactic symptoms.

The skin reactions that follow the use of nuts vary in proportion to what is popularly called their richness, walnuts being the chief offenders, pecans less so, almonds scarcely at all and filberts not at all.

Dried fruits such as dates, figs and raisins are valuable foods and have apparently no direct action on the skin. Figs are the only dried fruit that have a noticeable laxative action. In mild cases of constipation two or three figs eaten before retiring produce satisfactory results. The imported fig alone has this quality; our California figs, including the fertile seeded varieties, do not seem to have this virtue. Our raisins, if freely eaten, may cause an irritative diarrhea and in an unusual way; the skins are somewhat tough and difficult to digest and are prone to adhere by their flattened surfaces to the valvæ conniventes, where they may remain for some time before irritation is produced. In one well authenticated case that came under my care, diarrhea followed three weeks after the raisins had been eaten. The stools contained numerous shreds of raisin cuticle, apparently quite unaffected by their long sojourn in the bowel. The musk melon or canteloupe is apparently harmless, but I do not feel quite sure about the watermelon. The latter has the disagreeable habit of occasionally producing an almost choleraic diarrhea. The melons belong to a family of plants that in their wild state are drastic purgatives and in the instances where they disagree, they may have possibly reverted to the family habit.

Many people eat all manner of fruit not only with impunity but with pleasure and benefit, as it gives them that feeling of repletion that is essential to mental well being and prevents the excessive use of the ordinary proteids.

There is a class of people who have digestions akin to those of the herbivora, who can eat, satisfactorily digest and assimilate all manner of fruits and vegetables, and examination of the stools show that the digestion of the cellular elements is complete. These people have one distinguishing feature, they all show a tendency to constipation and

high blood pressure. In practice, then, we may lightly regard the possibility of anaphylaxis in these people. On the other hand, in those who suffer from catarrhal affections of the large bowel (and these affections are very numerous, ranging from mild catarrhal inflammation to membranous colitis) the anaphylactic action of fruits is liable to be very marked. There is, too, the possibility that the frequent association of anaphylaxis and colitis may be due to the parenteric action of the colon bacillus gaining access to the blood through the damaged points in the mucous lining.



# LYMPHADENOSIS CUTIS UNIVERSALIS, ASSOCIATED WITH GENERALIZED ERYTHRODERMIA AND ATROPHY OF THE SKIN\*

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Sweitzer<sup>1</sup> reported a rare example of the aleukemic type of leukemia cutis and submitted a brief review of the literature. Arndt,<sup>2</sup> of Berlin, in a rather brief yet comprehensive paper, deals with an only partly explored field in the domain of dermatology and in its broad scope embraces a discussion of some of the following conditions: the so-called lymphadenids or leukemids of the skin, the various types of cutaneous lymphadenoses, the integumentary manifestations of leukemia and pseudo-leukemia (lymphogranulomatosis, Hodgkin's disease), the different forms of universal exfoliating erythrodermias, their relations to lymphodermia perniciosa, pityriasis rubra, mycosis fungoides and other dermatoses. Lack of space prohibits anything more than a brief citation of some of the work on these topics which appears in the literature. Arndt contributed two other papers, one in 1911 and another in 1912, and those who desire to study the subject will find in these monographs much valuable information, together with a comprehensive bibliography.

Examples of universal cutaneous lymphadenosis are extremely rare. Arndt refers to four cases and Sweitzer's case is the fifth on record of its kind. In this country, comparatively little work has been done in connection with the cutaneous complications of diseases of lymphatic origin. Instructive papers bearing on the subject have been published by Hazen, Winfield, Bowen, Pardee and Zeit, and others. Closely related dermatoses, such as the premycotic erythrodermias, dermatitis exfoliativa, pityriasis rubra, etc., not infrequently form the subject of reports or of case demonstrations before dermatologic societies. In the discussion following the reading of Arndt's paper, Fordyce stated that he had had under his care two cases of universal lymphadenosis, similar

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1. Sweitzer, S. E.: Leukemia Cutis, with Report of a Case. Jour. Am. Med. Assn., Nov. 18, 1916, p. 1510.

2. Arndt, G.: Diseases and New Growths of Lymphatic Origin, Jour. Am. Med. Assn., Oct. 10, 1914, p. 1268.

to those described by Arndt. Pollitzer expressed the opinion that cases of this kind are probably not as rare as the scant literature would seem to indicate.

#### NOMENCLATURE

A modification of the nomenclature of the lymphadenotic affections, as Arndt suggests, possibly permits of a better conception of the subject as a whole. To use his own words:

Concerning the nomenclature I think the old names, lymphatic and myeloid leukemia should be replaced by aleukemic, subleukemic and leukemic lymphadenosis and myelosis. The essential pathologic feature of lymphadenosis is the generalized hyperplasia of the lymphatic hematopoietic tissue and the essential feature of the myelosis is a generalized hyperplasia of the myeloid tissue. According to the blood changes, which represent only a symptom, although a very important one—we distinguish, in speaking of lymphadenosis, an aleukemic form, if the blood is normal, a subleukemic form if the number of the white blood cells is normal or very little increased, but the proportion of lymphocytes is augmented, and a leukemic form when there is an absolute, permanent, progressive increase of lymphocytes and the total number of leucocytes is augmented.

#### TWO CLINICAL VARIETIES

Lymphadenosis of the skin occurs in two forms: the diffuse or universal and the circumscribed. They represent two different clinical types, which (according to Arndt) do not merge into each other. Both forms may be associated with the different blood pictures designated as leukemic, subleukemic and aleukemic. The circumscribed form is far more common than the diffuse or universal. In the myeloid variety of the disease, the diffuse form has not been encountered, but cases of the circumscribed form have been reported by Hindenburg and by Bruusgaard. More recently, Hirschfeld reported a case of aleukemic myeloid leukemia and incidentally mentions the fact that cases of aleukemic lymphatic leukemia are not as rare as was formerly thought.

The subject of this report is an example of the aleukemic type of universal cutaneous lymphadenosis. It is peculiar in the fact that the patient's skin exhibits the diffuse and the circumscribed varieties of the disease, together. Furthermore, the case is unique in that there exists a generalized, almost universal atrophodermia, associated with areas of deep, reticulated pigment deposits in the skin and glands; and in the occurrence of large and small infiltrations, nodules and tumors and of ulcerated areas of skin. The patient had been presented before various dermatologic societies on numerous occasions and the accompanying photographs will no doubt recall him to the minds of many dermatologists throughout the country. He has been more or less constantly under our observation during the past three and one-half years, during which period we have had ample opportunity to closely observe the progress of his malady, to note the blood changes (strictly speaking, rather the absence of blood changes), to study sections from

the skin and glands and to carry out the various laboratory tests, guinea-pig inoculations, etc. For the laboratory material obtained during the patient's stay at the City Hospital, we are indebted to Drs. Fordyce and Larkin; and to Drs. Goldenberg and Levisur we extend our thanks for biopsy material and clinical data obtained while the patient was under their care at the Mount Sinai Hospital.

Many eminent dermatologists have had occasion to examine our patient and several unhesitatingly pronounced the cutaneous picture which he exhibited to be unique in their experience. It is not to be wondered at, therefore, that the case has given rise to a considerable amount of controversial discussion, especially with respect to its diagnostic features. Originally presented before the Section on Dermatology of the New York Academy of Medicine as an example of pityriasis rubra pilaris, the dermatosis has been diagnosticated by some as pityriasis rubra of Hebra, by others as mycosis fungoides, leukemia and pseudoleukemia cutis, lymphoderma perniciosa, idiopathic atrophy of the skin, etc. On the occasion of his recent visit to America, Arndt examined the patient, and though he did not venture a definite opinion, he suggested that microscopic study of some of the enlarged glands might prove to be a step toward the identification of the malady and might cast some light on its pathogenesis. Microscopic study of numerous sections from the skin and glands, together with investigations directed toward possible alterations in the blood pictures, led us to the conclusion that we were dealing with an example of lymphadenosis, associated with universal erythrodermia, generalized atrophodermia, disseminated pigmentation, tumor formation and ulceration.

#### REPORT OF CASE

The patient was presented by Dr. Lapowski before the Dermatological Section of the New York Academy of Medicine, in October, 1913, under the title, "pityriasis rubra pilaris." This diagnosis was questioned by several members of the section, as the following quotation of the case report,<sup>3</sup> together with the ensuing discussion, will show:

"PITYRIASIS RUBRA PILARIS. Presented by DR. LAPOWSKI.

"Mr. J., aged 40 years. Occupation, bricklayer. The disease appeared eight years ago, and was universal. Family history. One sister and one brother died of 'lung' diseases. The patient was married eighteen years. There was no history of tuberculosis either in the patient or in his three living children. The disease started on the flexor surfaces of the arms, with severe itching, and red spots appeared on the breast and elbows, gradually spreading over the whole body, and since that time the redness and itching were always present. Two years ago he began to lose his hair. The general health was unimpaired.

"He came to the dispensary October, 1912, with erythematous, slightly infiltrated patches, consisting of papules, some conical, with white, very adherent scales, and some flat papules arranged in rings, localized on the breast, abdomen and flexor surfaces of the arms. The rest of the skin was red, dry, with

3. THE JOUR. CUTAN. DIS., May, 1914, p. 398.



minute scales. The nails showed between the bed and the body of the nail, keratosis, and were raised and striated. The palms and soles were hard, cracked, infiltrated, with fine scales. The face was red, drawn, slightly scaly. There was ectropion of the left eye. The lower lip showed whitish lines and rings.

"He was treated with subcutaneous injections and lubricants, resulting in a pronounced improvement, showing itself in pliability and softness in those parts of the skin which before treatment were hard, cracked and infiltrated.

"DR. WALLHAUSER said he was inclined to regard this as a case of pityriasis rubra of Hebra, as it lacked the papular condition seen in pityriasis rubra pilaris; furthermore, the atrophic features of the Hebra type, ectropion, etc., were present in this case to a marked degree.

"DR. HOWARD FOX said that he could see no evidence of pityriasis rubra pilaris and thought Dr. Wallhauser's suggestion of pityriasis rubra of Hebra should be seriously considered.

DR. POLLITZER said that the patient presented some symptoms of pityriasis rubra pilaris notably on the forearms, but the atrophic patch on the trunk was not a lesion of that disease and the skin showed no development of horny plugs. The atrophy and the ectropion suggested the pityriasis rubra of Hebra, while the long duration, eight years, was not common in that disease. He would make no positive diagnosis without opportunity of further observation."

\* The patient, despite the improvement in his condition, soon discontinued his visits to the Good Samaritan Dispensary and subsequently fell into the hands of three or four practitioners residing in his neighborhood, one of whom finally referred him to my service in the Beth Israel Hospital Clinic.

During the interim, his skin had been undergoing progressive changes. The entire integument, excepting the palms, soles and the skin of the genitals, now presented a striking picture of advanced atrophy. On the scalp, face and legs the skin was tense, glistening and appeared as though it had been stretched over the tissues below it. On the trunk and upper extremities, the skin was wrinkled, flaccid, soft to the touch and somewhat redundant in appearance, a condition designated by Jadassohn as anetodermia. The face was of a deep, bluish-red color, while the rest of the body presented a decided bronze-red tint. The forehead and upper lip, as well as the frontal portion of the scalp, exhibited swellings which were boggy and edematous, pitting on pressure. The skin of the chest, back and abdomen, beside the diffuse bronze-red pigmentation, showed also a disseminated, dark-brown, reticulated and irregularly distributed pigmentary deposit, similar to that occurring in a chronic radiodermatitis. Scaling was so meager as to be scarcely noticeable. On the legs there were a few small ulcerations and infected scratch lesions. The scalp and bearded regions were almost entirely denuded of hair. Eyebrows and eyelashes were gone. The nails were unchanged. There was a moderate, general adenopathy. With the exception of mild pruritus, the patient felt well.

A definite diagnosis having not as yet been decided on, the opportunity was taken to present the patient before the New York Dermatological Society, at the March, 1914, meeting. The record of the presentation, together with the interesting discussion to which it gave rise, follows:

"PITYRIASIS RUBRA PILARIS (?). Presented by DR. WISE, March, 1914.

"The patient, Jacob J., was a man aged 40 years, born in Russia. He was married twenty years ago and was the father of nine children, three of whom were living and in good health. He was a bricklayer by occupation. In October, 1913, he was presented before the Dermatological Section of the New York Academy of Medicine by Dr. Lapowski, as a case of pityriasis rubra pilaris, and considerable discussion arose regarding this diagnosis. The disease began about seven years ago on the chest and the flexor surfaces of the arms, in the shape of red patches and scaly spots. There was much pruritus at that time.



On the scalp, the scales appeared about two years ago and the alopecia followed soon thereafter. Since the beginning of this disease, there had been a gradual spread of the erythematous and scaly patches until there was a universal involvement of the integument. While under Dr. Lapowski's care he received 30 intragluteal injections, presumably of arsenic. The patient presented for examination a thin, glistening, dusky-red, wrinkled and atrophic skin, the process involving the entire integument with the exception of the palms and soles, which were thickened and horny. On the backs of the fingers and hands, there were present a large number of comedo-like follicular plugs. The face was red, tense and glistening in appearance; there were areas of alopecia of the beard and there was total loss of eyelashes; ectropion was marked. About two-thirds of the scalp was entirely denuded of hair; the scalp was tensely drawn over the cranium and was atrophic. On the legs there were several ulcerated areas, following traumatism from scratching, etc. The patient complained of pruritus and of feeling cold. The nails showed no changes. The Wassermann reaction was negative.

#### DISCUSSION

"DR. SHERWELL inclined to the diagnosis of pityriasis rubra.

"DR. WHITEHOUSE said that he had seen but two cases of true pityriasis rubra of Hebra, one of them being a case that had been under Dr. Jackson's care some years ago. Both cases died after pursuing the usual course of pityriasis rubra; the exfoliation was in large flakes, with the shedding of the nails and hair, lasting many years before death ensued from pulmonary tuberculosis, kidney disease, or the usual termination of septic absorption. The picture of pityriasis rubra was well fixed in his mind, and he had not seen anything like it since, whereas this case was very much like pityriasis rubra pilaris. The lesions on the hands and fingers were characteristic of pityriasis rubra pilaris, whereas in pityriasis rubra of Hebra there was not the tylosis of the palms, as in this case and as in all cases of Dévérgie's disease; besides, the general exfoliation was entirely different. Instead of the soft flakes, as in pityriasis rubra, this was a dry, squamous shedding of the epidermis. The scalp and nails seemed characteristic enough of Dévérgie's disease, and the atrophy was not uncommon in some of these cases. It was rather unusual, however, for atrophy to develop after only seven years. It would certainly seem to be a case of pityriasis rubra pilaris and not pityriasis rubra of Hebra.

"DR. FORDYCE agreed with the diagnosis which Dr. Whitehouse had made and said that Dr. Whitehouse had presented very clearly the differential points between pityriasis rubra of Hebra and pityriasis rubra pilaris. The keratosis of the palms which this patient presented was very frequently met with in pityriasis rubra pilaris. The follicular involvement of the dorsal surface of the phalanges and over the wrist, in his own opinion, were absolutely typical of pityriasis rubra pilaris.

"DR. WISE said that he would have histological and serological examinations made and would report to the Society on the case at a later date."

In the Fall of 1914 the patient, together with microscopic sections from the skin of his back, was again presented before the New York Dermatological Society.<sup>5</sup> An invitation to this meeting was extended to Professor Arndt, so that we availed ourselves of the opportunity of hearing his opinion of the case.

"PITYRIASIS RUBRA OF HEBRA (?). Presented by DR. WISE, Oct. 27, 1914.

"The patient (originally presented before another society by Dr. Lapowski) had been presented at a previous meeting with a tentative diagnosis of pityriasis rubra of Hebra, and at the request of one of the members he was brought again

5. THE JOUR. CUTAN. DIS., April, 1915, 33, No. 4.

for further study. A biopsy had been made and a section therefrom was presented for observation. The history of the case had been published in full in a recent number of *THE JOURNAL*. The Wassermann test was negative, the von Pirquet negative. The blood and urine were normal. The atrophy of the skin was almost universal. There was also a very general adenitis. (A complete study of this case was under way, and the results would be reported at a future date.)

#### DISCUSSION

"DR. ARNDT (on invitation) said that it was very difficult to discuss the case. All that one could say was that there was a chronic inflammation of the skin terminating in a very marked atrophy. The latter symptom dominated the clinical picture.

"As to the different diagnoses suggested, pityriasis rubra pilaris, lichen ruber acuminatus, pityriasis rubra of Hebra, he could not agree with any of them. In lichen ruber acuminatus the primary lesions were perifollicular. There was no marked follicular localization in this case. In the lichen ruber acuminatus there would not be these peculiar ill-defined, deep-seated, soft infiltrations of the skin, as were seen on the forehead of this patient. The course would be different. Either the lichen ruber acuminatus became universal within a year or so, or it retrogressed in parts and recurred in others. There had been no retrogression at all in any part of the body of this patient since the beginning of the disease, seven years ago.

In pityriasis rubra pilaris, the primary lesions were likewise follicular. There were no deep, patchy infiltrations. There would be much more scaliness about the face and scalp.

"As to the diagnosis of pityriasis rubra of Hebra: it was very difficult to reach an agreement concerning that name. At the present time we were rarely inclined to make this diagnosis. The pityriasis rubra of Hebra was a universal, chronic reddening and exfoliation of the skin, ending in atrophy. These symptoms were rather vague and we saw the same changes in different processes, such as the lymphatic leukemic and the tuberculous erythrodermias. The latter was a rare form of tuberculosis of the skin first described by Bruusgaard, which was a generalized exfoliative erythrodermia coexisting with tuberculosis of the inner organs and showing the typical tuberculous changes in the skin. Then we knew the dermatite éxfoliatrice généralisée subaigue described by Wilson and Brocq. The course of this latter condition was subacute and did not last longer than about six or seven months. Admitting the possibility of this case being a so-called pityriasis rubra Hebra, there ought to be a universal spreading and generalizing after seven years' duration.

"The speaker said he would like to make two suggestions concerning this case. One might think of the possibility of a mycosis fungoides, although the marked scarlike atrophy of the skin and the lack of any retrogression were against it. But as far as the clinical picture was concerned, the deep, ill-defined, edematous infiltration of the skin of the forehead and the histological picture of the presence of irregularly scattered giant cells, different from the Langhans type, and recalling those seen in mycosis fungoides, were suggestive to a certain degree. Of course, these giant cells were not exclusively found in the latter disease, and did not enable us to be affirmative in the diagnosis.

"The other suggestion which he would have to make was the following: The most marked feature in this case was the atrophy of the skin, and it might be that we had to deal with a case of the so-called idiopathic atrophy of the skin. The chronic inflammatory infiltrations about the forehead would not be against the diagnosis. We knew that the atrophy in these cases was but a final stage. In acrodermatitis chronica atrophicans, of course, the localization was different. The fact that there had not been any remission at any time would be in favor of this diagnosis. This dermatitis atrophicans could be related to the ordinary forms of acrodermatitis chronica atrophicans or erythromelia (Pick), or might be different from the well-known clinical pictures. Very often we had to rely on the histological changes if the clinical

picture was not very clear; but in the case presented the microscopical changes showed us much more than we could learn from a pure clinical observation. There was chronic inflammatory infiltration of the upper third of the derma, with very marked atrophy of the epithelium. The cells composing the inflammatory new growth were lymphocytes, spindle-shaped cells, mast cells, pigment cells and some peculiar giant cells. Altogether these changes were not sufficient to make a positive diagnosis.

"Another feature in this case to which attention should be directed was the rather general involvement of the lymphatic glands. If it would be possible to take out any of these glands and make a histological diagnosis of the changes found in the lymph nodes, we might, perhaps, get a clearer idea of what the case really was, if there was any relation between the skin lesions and the general swelling of the lymph nodes.

"Dr. ARNDT said that he had seen one case like this in Berlin, in which he hesitated for a very long time in making a diagnosis, even after careful histological study of an excised piece of tissue. In this case he finally decided on a dermatitis chronica atrophicans.

"Dr. TRIMBLE did not think the clinical picture suggested lichen ruber acuminatus, and could not agree with such a diagnosis. The main reason for this opinion was that the disease was not follicular. Although he had seen only a few cases of pityriasis rubra, in these the redness was much brighter and more marked than in the patient just shown. In the case under discussion the color was quite dark—a brownish red. On the basis of his experience, he did not feel that he could agree with the diagnosis of pityriasis rubra of Hebra.

"Dr. ROBINSON said that the term lichen ruber acuminatus had been used, and he would like to explain what he understood by that term. We had not in forty years seen any cases of the lichen ruber acuminatus of Hebra, as described by him. All of these cases subsequently described under that term were now considered as pityriasis rubra pilaris (Dévérgie).

"Dr. Robinson said that he had nothing to add to what had been said excepting to agree to a great extent with what had been said by Dr. Arndt. It was not the pityriasis rubra of Hebra. In the only case of this disease that he had seen for a number of years, the sections resembled it somewhat, but the condition mentioned had not the marked atrophic condition present in this case. No diagnosis should be attempted in this case without a microscopic examination. There was not much inflammatory process. It was not a pityriasis rubra, nor did it suggest any mycotic condition. He would regard it as a unique case, not to be included under the head of any well known disease. He was inclined to consider that some internal secretion was at fault, or that there was some trouble of the central nervous system. He had not seen any other case exactly like it in New York.

"Dr. ARNDT said that up to about two years ago he had been of the same opinion as Dr. Robinson, that pityriasis rubra pilaris and lichen ruber acuminatus were the same. In most of the cases of that disease which had been described first by Dévérgie as pityriasis rubra pilaire, the Viennese school would have made the diagnosis of lichen ruber acuminatus. Two years ago, he came across a case in which he hesitated to make the diagnosis of pityriasis rubra pilaris, although the lesions looked very much like it. The histological examination showed the typical changes of lichen planus. Therefore it was evident that this was a lichen ruber acuminatus and different from pityriasis rubra pilaris. There existed a variety of lichen planus that might be called lichen ruber acuminatus on account of its clinical picture, that differed rather from the lichen planus, in so far as *all the papules were peri-follicular*, there being no *flat papules* at all.\* Histologically, these two forms did not show any difference whatever.

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\* The coexistence of follicular papules *besides* the flat ones in the ordinary forms was, of course, of frequent occurrence.



"DR. ROBINSON said that in lichen planus the sweat glands contributed to the umbilicated character. The corneous cells were compressed, as also the rete, on account of the presence of the excretory duct of the sweat glands. Apart from the few scales that were thrown out, this was the cause of the depressed center often observed. All of Wilson's cases had umbilicated lesions. We knew the cases of lichen ruber of Hebra ended fatally. For that and other reasons, he did not regard these two forms of eruption designated as lichen ruber planus and lichen ruber acuminatus of Hebra as being two forms of the same disease. He thought that view had been given up by all dermatologists.

"DR. ARNDT agreed with Dr. Robinson in giving up the old conception of lichen ruber acuminatus created by Hebra. The fatal issue in these cases may have been due to a generalizing of the process, the condition which the French called *herpetides exfoliatrices malignes*, a general chronic inflammation of the skin, not only occurring in the course of lichen planus, but also in eczema, psoriasis, etc. But setting apart the old clinical picture described by Hebra that was partially identical with Dévergie's disease, there was a lichen ruber acuminatus clinically differing from lichen planus, although probably a variety of this disease as shown by the very characteristic histological changes. It might be called a variety of lichen planus, but the clinical difference from the ordinary forms was so marked and striking that it was advisable to reserve for this form the old term of lichen ruber acuminatus.

"DR. HOWARD FOX said that it had been a great pleasure to hear Professor Arndt's opinion of this case, that had caused so much previous discussion. He was interested to hear Professor Arndt speak of lichen ruber acuminatus and pityriasis rubra pilaris as separate diseases. In his own opinion—which he thought was that of most American dermatologists—the two names represented the same condition. He did not think the case under discussion could be included in the disease described by either of these names, for the reason, as Professor Arndt had said, that the eruption had been almost universal for such a long time. In all the cases of pityriasis rubra pilaris that he had seen the eruption had eventually cleared up—in part, at least—after a number of months. An argument against the diagnosis of premycosis was the entire absence of itching.

"DR. KINGSBURY said that the case obviously called for continued study, and suggested that previous therapy might have had some bearing on the present clinical appearance. It might have been that some of the atrophy and pigmentation were due to arsenic and to Roentgen-ray treatment. It would be interesting to learn how much arsenic the patient had had. With reference to Hebra's fatal cases, it would seem probable that some of the deaths may have been due to arsenical poisoning, as he gave arsenic in enormous dosage.

DR. FORDYCE said that the case presented was, in his experience, a unique one and deserved much careful study. The histological examination of the lymph nodes might throw some light on the condition. Some years ago he had presented a very extensive case of annular lichen planus. The patient became cachectic and finally died with a persistence of the lichen lesions. A necropsy showed marked changes in the supra-renal bodies, which may have been responsible for the intense pigmentation of the skin and the fatal issue.

"DR. SHERWELL said that Hebra would undoubtedly have pronounced this case pityriasis rubra, as he laid great stress on the totality of the eruption. Another thing was that there had been such great advances in microscopic studies, that many differential problems were more or less intricate and interwoven one with another, with possible error. The general condition of this case, apart from the question of slight exudation or infiltration, would undoubtedly have led him to believe it pityriasis rubra. It seemed to him a classical instance of the condition which, under Hebra's guidance, he had learned to consider as pityriasis rubra.

"DR. ARNDT said that he did not wish to be misunderstood as to his conception of pityriasis rubra pilaris and lichen ruber acuminatus. They were different diseases, but there were cases clinically resembling pityriasis rubra



pilaris, though histologically they proved to be not pityriasis rubra pilaris but true lichen planus. As to the pityriasis rubra referred to by Dr. Sherwell, he could only say that the conception of pityriasis rubra in this country was very much larger than in Germany. In American literature many more cases of this disease were reported than in the German or French literature, and evidently here the old Hebra conception was still accepted.

"The possibility of this case being an unusual form of mycosis fungoides was not very great. The absence of itching would not prove so much as the fact that there had not been any retrogression. He had seen but one instance of a similar condition in Berlin, which he had studied for five or six years, without being able to reach a convincing conclusion.

DR. WISE said that the man had never had any Roentgen-ray treatment, although the chest presented that appearance. He had taken arsenic, but only after these changes had already taken place."

The clinical changes taking place in the patient's skin have been sufficiently described in the foregoing accounts, which reflect the progress and advance of the disease as it appeared at various times, in the past three years.

In view of the fact that the morbid changes in the skin closely resembled those frequently encountered in patients afflicted with true leukemia, numerous blood counts were made; the results were always negative, however. During his stay at Mount Sinai Hospital, careful physical examinations and radiographs failed to reveal evidences of tuberculosis in any of the viscera. Tuberculosis was seriously considered as an etiologic factor, bearing in mind the similarity of the patient's lesions to those described by Bruusgaard, in his case of universal erythrodermia; in his patient, tubercle tissue could be found in almost any portion of the integument.

Numerous sections of the skin and glands of our patient were searched for tubercle bacilli, with negative results. Guinea-pig inoculations were carried out by Dr. E. J. Snyder, with material obtained from the deeper cervical glands and those from the groin, also with entirely negative results. The von Pirquet test was negative, as was also the complement fixation test for tuberculosis.

During the patient's attendance at the dermatologic department of the Vanderbilt Clinic, where he received Roentgen-ray treatments in the hands of Dr. Remer and his associates, we were enabled to perform the various laboratory tests and biopsies involved in this study.

The histopathologic changes in the skin and glands will be considered later.

#### SUBSEQUENT HISTORY

The patient entered the Montefiore Hospital on Oct. 21, 1916, in the service of Dr. Levisaur. For the following narrative I am indebted to the house physician, Dr. Sands, who was also kind enough to carry out the various laboratory tests mentioned below. Roentgen-ray plates of the skull were made by the radiographer of the hospital.

The patient, J. J., aged 43 years, married, was a native of Russia. The parents died at about the age of 60, from causes unknown to the patient. There is no history of diabetes, tuberculosis, syphilis, nervous disorders or skin diseases in the family.

*Previous History.*—He had scarlet fever in childhood. Venereal disease is denied. He was married at the age of 24; his wife and three children are living and in good health. Before the onset of the present trouble he was a heavy drinker, taking at least ten drinks of whisky daily. During the past two years he has indulged in occasional drinks. He uses tea and coffee in moderation. He never uses tobacco. Appetite has always been good. Bowels are regular.

*Present Trouble.*—The disease began about seven years ago, as a reddened, scaly patch on the lower part of the thorax and upper portion of the abdomen, on the left side. This patch itched considerably and scratching provoked a serous exudation. This area gradually increased in size and new foci of inflamed skin soon appeared on different parts of the body; these gradually became confluent, until the skin of the entire body was involved in the process.

*Examination.*—The patient is a medium sized, well developed man, presenting a universal skin disease. The entire integument is reddish in color, varying in different parts of the body, from a bright red to a bronze red. On the face the skin presents a distinct violaceous tint; the chest, back and abdomen exhibit a somewhat variegated color scheme, the tints ranging from yellowish to dark brown in some locations and to a bronze red and copper color in others. The skin of the extremities is of a dull red tint. On the trunk the skin has a mottled appearance, due to an extensive deposit of brown pigment, arranged in an irregular, somewhat reticulated pattern, resembling the end results of a chronic radiodermatitis. Larger and smaller patches of pigmentation are also seen on the scalp, face and extremities.

With the exception of the palms and soles and the skin of the genitals, the entire integument shows evidences of atrophy. On the scalp and legs the skin appears stretched tightly over the underlying tissues, giving it a somewhat glazed appearance; but over the rest of the body, the skin is wrinkled into fine folds, giving it the redundant appearance associated with anetoderma. The scalp, eyebrows, eyelids and axillae are denuded of hair. The nails are unchanged.

On various portions of the trunk and extremities there are more or less circumscribed, round and oval, scaly and crusted patches, from one to four or five inches in diameter, resembling chronic eczematous infiltrations. On the legs, over the shins and on the posterior surfaces, are several deep, indolent ulcers, with well defined margins and sloughing interiors. Similar ulcers are developing on the arms; these have resulted from the breaking down of nodular infiltrations. On the upper extremities, chest, back and thighs there are about a dozen boggy tumors and nodules, varying in size from a half to several inches in diameter, slightly raised, not well defined, their borders gradually merging with the surrounding skin. Some of these tumors are beginning to break down in the center, forming ulcers; others are involuting without evidences of disintegration or ulceration on the surface of the skin.

Marked adenopathy is present in the cervical, axillary, cubital and inguinal regions.

The mucosae of the mouth exhibit a slight brownish pigmentation. There is a well marked pyorrhea alveolaris. General physical examination is negative. Reflexes, sensation, mentality, etc., are normal. Blood pressure: systolic, 130; diastolic, 90. The Wassermann test is negative. The urine is free of abnormalities.

The patient's weight on admittance was 122½ pounds. During his stay of five months in the hospital he gained 14½ pounds. A radiogram of the skull revealed a normal sella turcica; the pineal body was not seen. Blood count: Red blood cells, 4,500,000; white blood cells, 10,000; small lymphocytes, 15 per cent.; large lymphocytes, 21 per cent.; polymorphonuclears, 60 per cent.; eosinophils, 2 per cent.; hemoglobin, 70 per cent. There were no abnormal red cells.

In November and December, 1916, several boggy tumors appeared on the back, arms and legs. Some of these broke down and were transformed into deep ulcers, with sharply raised, crateriform edges. The patient received

divided doses of Roentgen ray, resulting in involution of the tumor masses and healing of the ulcerations. Radiotherapy did not, however, prevent the appearance of fresh infiltrations and subsequent ulcerations. Some of the ulcers on the lower legs were due to scratching and subsequent infection with pus organisms.

#### RÉSUMÉ

A well nourished man, whose general health is fair and whose blood counts are normal, has had a progressive disease of the skin which began about ten years ago and has become universal; the disease is characterized by reddening, edema and tumefaction; the formation of moist, eczematous patches; the presence of nodules, tumefied masses and soft tumors, and of indolent ulcers; the occurrence of widespread pigmentation and an almost universal atrophy of the integument, accompanied by an almost complete alopecia of the scalp and face. There is also a marked adenopathy of the glands in the groins, neck and axillae. Subjectively there is moderate pruritus and pain in the ulcerated regions of the body.

#### HISTOPATHOLOGY

In the past three or four years, five bits of tissue were removed from various parts of the skin, for purposes of microscopic study. A small packet of glands was removed from the deep cervical region, a little over a year ago, by Dr. E. J. Snyder; and some glands from the groin were removed at the City Hospital, about two years ago, under the direction of the pathologist, Dr. Larkin, who was kind enough to examine sections from these glands and to submit a report of his findings. The areas from which the biopsies were made were chosen with regard to certain outstanding features of the dermatosis. One section was taken from a deeply pigmented spot on the chest; another from a thickened area of skin between the shoulder blades; another from an area presenting advanced atrophy and anetoderma; another from an eczematous, raised patch of skin in the lumbar region, overlying a tumefied, infiltrated mass of tissue—a boggy tumor covered by a friable, moist and inflamed integument, ready to break down and form an ulcer.

With the exception of the last biopsy, the various bits of tissue exhibited practically identical microscopic alterations, with the different modifications dependent on different clinical lesions from which the biopsies were taken. The changes in the glands of the neck and of the groin were also practically the same.

The sections were prepared and stained for me by Mr. Freeman, the technician to the laboratory of the dermatologic department, Vanderbilt Clinic. The lymph node from the groin was prepared in the laboratory of the City Hospital.

**Skin from the Groin. Low Power.** The corneous layer is hyperkeratotic and in some places laminated. The thickness of the epidermis as a whole varies greatly, ranging from four or six to fifteen or twenty



rows of cells. The atrophied regions are marked by a complete loss of pegs; the thickened places exhibit a well marked edema of the cellular elements, in some regions extending up into the stratum granulosum. Here and there infiltrating cells from the corium have invaded the epidermis. Directly beneath the epidermis there is a new-formed cellular growth, infiltrating the papillary portion of the derma. In the midst of the infiltrates are found spaces exhibiting considerable endothelial proliferation. The deeper layers of the derma present a fragmentation of the collagen, with pronounced sclerosis of the connective tissue surrounding the coil glands and hair follicles. The collagenous tissue about the deeper blood vessels also is sclerotic, the vessels themselves being for the most part dilated, and having thickened walls. The corium as a whole is greatly edematous.

High Power. The atrophied parts of the epidermis present a thickened stratum corneum, some of the cells still showing nuclei (parakeratosis). Some places are laminated. There is no distinct stratum lucidum, while the stratum granulosum is well defined; the intercellular spaces are indistinct and many of the nuclei are broken up. The prickle cell layer is from two to four layers in thickness, the cells are flattened, the nuclei staining poorly, the intercellular spaces as well as the prickles being poorly defined. Vacuolization is seen in some of the nuclei, with loss of contiguity of the epithelial cells. In the prickle cell layer some of the cells show granular degeneration. In the deeper layers of the epidermis are seen a number of darkly stained, migratory lymphatic cells.

In the hypertrophied parts of the skin, the corneous layer is the same as above described, except that it is much thicker; the stratum lucidum is absent, while the granular layer is more pronounced. The prickle cell layer varies from five to twenty cells in thickness, the intercellular spaces being well defined and the spines easily seen. Many of the cells exhibit intracellular edema with vacuolization, the nuclei being pushed to one side. The deeper portions of the prickle cell layer are more edematous, with evidences of granular degeneration, not seen in the more superficial layers. The basal cell layer is completely disintegrated.

Thickened and thinned areas of skin occur in the same field, so that there is great variation in the amount of infiltration in the papillary layer of the corium. More especially beneath the atrophied portions, the collagen is widely separated into fascicles, with spaces in between, containing numerous cells with large, granular nuclei and very little protoplasm (lymphocytes). There are also many eosinophil cells, while plasma and mast cells are few; a few small lymphocytic type cells, with a uniformly darkly stained nucleus, are also seen. The infiltration occupies the subpapillary portion of the corium, accom-



panying the blood vessels and coil glands into the deeper structures. Scattered through the infiltrate are numerous dilated, thin-walled blood vessels, together with many dilated lymph spaces.

In the atrophic places, there is a complete absence of follicles. Underneath the thinnest parts of the epidermis the infiltrate is greatly diminished, showing an increased fibrous tissue formation in certain regions. Beneath the hypertrophic portions of the epidermis, the edema is more pronounced than elsewhere, the interfascicular spaces are less prominent, the collagenous bundles occurring as fine strands, in the meshes of which are a few plasma cells, large cells with granular nuclei and a few small cells with darkly stained nuclei (eosinophils and mast cells).

The capillaries are increased in number and are filled with blood cells. Pigment granules, mostly intracellular, are scattered throughout the upper portion of the corium. In some areas the cellular infiltrate is much more dense than in others, very little of the collagen being visible. The cellular infiltrates extend down to the deeper vessels and coil glands, often replacing these structures. Hair follicles are few in number, the remaining ones being surrounded by cellular infiltrates; proliferation of the walls of the blood vessels and lymph spaces is well marked, more especially in those about the hair follicles.

Skin from the Back, Between the Shoulder Blades. Low Power. The corneous layer is thickened, in some places also laminated; the stratum lucidum is absent; the granular layer is from one to two layers of cells thick, the nuclei staining well. The prickle cell layer varies in thickness from two to eight cell layers, the nuclei being poorly defined in places where the skin is atrophic. There is marked intracellular vacuolization. The basal cell layer is in some areas intact, in others disintegrated. Increased fibrous tissue formation is seen in the corium, just beneath the epidermis, together with a disappearance of the papillae. Corresponding to areas in the epidermis where the atrophic process is not pronounced, the corium contains aggregations of small round cell infiltrates, in which are seen many small lymph spaces. Scattered throughout the fibrous tissue are numerous small blood vessels and lymph spaces, some of them lined with endothelial cells. Just beneath the epidermis the lymph spaces are enormously dilated; in some areas the epidermis is completely separated from the corium, resulting in variously shaped subepidermal vesicles. Numerous strands of dense connective tissue are seen extending down into the derma, some of them showing fibroblasts, possibly taking the place of the preexisting infiltration which had accompanied the deeper vessels.

Some of the blood vessels show dense, thickened walls with evidences of hyaline degeneration and marked contraction of the lumina. The few remaining coil glands show pronounced atrophy and are sur-

rounded by a dense connective tissue stroma. The collagenous tissue is dense, sclerotic and fragmented.

High Power. In addition to the changes already noted, the deeper layers of the epidermis present numerous pigment granules. The basal cell layer is for the most part destroyed. Where the epidermis is thinned, there is a dense connective tissue formation in the upper corium, in some places entirely devoid of cellular elements, other places showing a few spaces lined by endothelial cells; some plasma cells and lymphocytes also are found. Vesicle formation between epidermis and corium, the spaces being filled with fibrin, is a prominent feature of the sections. The epithelial cells forming the roof of the vesicles are degenerated and there is a pronounced edema of the surrounding tissues.

Scattered throughout the collagenous tissue, in some places more abundantly than in others, are infiltrates of embryonal cells of endothelial type; pigment deposits and chromatophores are numerous. The capillaries and small blood vessels have thickened walls; areas of dense connective tissue are seen deep down in the corium, together with lymphocytes and plasma cells scattered among them. The remaining coil glands are distinctly atrophied. Very little is left of the arrectores muscles, their remnants being atrophied.

Skin from Eczematous Patch on Lower Back. The corneous layer is well preserved, increased in thickness and intact throughout the section. Where it dips down into the few remaining hair follicles, it is markedly thickened. Lamination and parakeratosis are in some places prominent. There is only a faint indication of the stratum lucidum; the granular layer is for the most part two or three cell layers in thickness, but in the atrophic portions of the section, it is entirely lacking. The prickle cell layer varies greatly in thickness, represented by a few layers of cells in some regions; in others, by six to twenty layers (acanthosis). Many of the spinous cells are disintegrated, exhibiting marked edema, the prickles themselves staining poorly and many of the cells being devoid of nuclei. This intracellular and intercellular edema is especially pronounced in the deeper portions of the spinous layer, into which a few small lymphocytes have wandered. The rete contains many small lymph spaces, extending down to the corium, the basal cell layer being poorly defined and lacking the normal palisade cell arrangement; the remaining basal cells are distorted and widely separated, among them being numerous small wandering lymphocytes. The lymph spaces here are quite prominent, and mitotic figures are numerous.

In regions exhibiting more pronounced atrophy, the process of cornification begins deep down in the stratum spinosum, a few cells retaining their nuclei. The spinous layer is three or four cells in thickness, the cellular elements and intercellular spaces showing

advanced edema, the prickles being destroyed. Well defined microscopic vesicles, caused by separation of the rete cells, are seen extending up to the corneous layer. Some of the vesicles and lymph spaces present distinct lining membranes, enclosing fibrin deposits. Many new-formed blood vessels and dilated lymph vessels are seen lying between epidermis and corium.

The connective tissue of the corium is edematous, more especially in the vicinity of the vesicles; the collagenous bundles are separated by new-formed cells, some of which are arranged in columns, others in "nests." These cells consist of lymphocytes with dark, granular nuclei, eosinophils and many embryonal cells of endothelial type. The latter are scattered among the network of dilated lymph spaces and small capillaries. In some places the collagen shows evidence of granular degeneration, the infiltrating cells in these regions staining weakly. Deeper down in the corium, the collagen is not altered to such a great extent as in the pars papillaris, the bundles being less fragmented. Cellular infiltrates are scattered throughout the reticular layer of the corium, some of them accompanying the blood vessels, which exhibit marked endothelial proliferation. In some regions, the infiltrating cells have entirely displaced the collagenous structure.

Elastic Tissue. Just beneath the epidermis there is total loss of elastic fibers; a few fine threads are present in the lower portion of the pars papillaris; the pars reticularis also shows a diminution in elastin. In the blood vessels, the amount of elastic tissue appears to be normal, perhaps slightly reduced.

Summarizing the main histologic features of the sections removed from various parts of the body, we find varying grades of hypertrophy and atrophy of the epidermis; interstitial and parenchymatous edema throughout the skin; formation of subepidermal vesicles; vascular and lymph vessel dilatation; many newly formed vessels; inflammatory changes in the vascular walls; sclerosis and degeneration of the collagen; deposits of extracellular and intracellular pigment; polymorphous cellular infiltrations in the derma, including pigment-bearing cells and erythrocytes, round cells with large nuclei and a narrow rim of protoplasm, connective tissue cells with oval nuclei, groups of embryonal cells of endothelial type, endothelial cells with large, spherical nuclei and with nucleoli, varying a great deal in tinctorial properties. The lymphocytic cell predominates in all sections.

Histology of Lymph Nodes. Gland from Groin. Low Power: The arterial walls in the capsule are thinned; the vessels in the medullary portion are dilated and filled with red blood cells, the walls being moderately thickened. The lymphatic spaces are dilated. The cortical portion presents a moderate grade of edema, with dilatation of the perinodular lymph sinuses. The secondary lymph nodes in places retain an apparently normal shape and size, while in some areas their



outlines are lost, due to the cellular infiltration. A large amount of pigment is scattered throughout the nodes. High Power: An early stage of the inflammatory process is apparent in the secondary nodes, in which only the central portions are affected; these areas contain embryonal cells of endothelial type, similar to those noted in the corium of the skin sections; pigment granules and mitotic figures are abundant. In the more advanced stage, almost the entire secondary node consists of these embryonal cells. There is an increased connective tissue stroma, with proliferation of connective tissue cells, round cells with darkly stained nuclei and many pigment granules. There is considerable edema and vascular dilatation, the vessels filled with red blood cells.

Gland from Deep Cervical Region. Low Power: The cortex is more compact than in the gland above described; that is, the edema is less pronounced. The secondary lymph nodes are less sharply outlined, while the vessel walls of the hilus are thickened and sclerosed. The endothelial proliferation is similar to that of the gland from the groin, but less extensive; mitoses are few. The connective tissue stroma is more condensed throughout; comparatively little pigment matter is present. In places there is a marked dilatation of communicating lymph spaces. The high power presents changes similar to those described above.

The following report was kindly submitted by Professor Larkin, who examined the gland from the groin:

The first examination of tissue was made on Feb. 25, 1915, with a tentative diagnosis of extensive endothelial proliferation in the perilymph sinuses and in the germ centers of the lymph nodes. The microscopic picture was so irregular that I can distinctly recall having sent specimens to Professor Ewing to get his viewpoint on the case. It was just about this time that his article appeared in the *Journal of Medical Research* on several cases which he had examined and classed as primary endothelioma of the lymph node, and knowing his interest in such cases I asked him to look the slides over. His diagnosis was confirmatory of the previous diagnosis which I had made; namely, that there was an extreme endothelial hyperplasia in the perilymph sinuses, and that he was of the opinion that it was associated with and dependent on a granulomatous infection, and that the endothelial hyperplasia was in response to an inflammatory irritant, bringing about extensive proliferation. We both thought that it did not come within the classification of primary endothelioma. Neither did my former diagnosis seem to confirm that it was in any way connected with lesions seen in the lymph nodes in Hodgkin's disease.

Reexamination of numerous sections of lymph nodes stained in various ways shows a corresponding picture of intense endothelial proliferation in the perilymph sinuses; also an increased connective tissue stroma of the reticulum, and an increased connective tissue proliferation in the germinal centers of the lymph nodules. This has resulted in a gradual displacement of the lymph node proper. Extensive pigmentation is seen in all sections. Many of these sections have been examined for the presence or absence of iron by the ferrocyanid potassium test, and have given a positive reaction in all cases. This gradual recession of lymph nodes which you mention seems to be conclusive on account of the gradual and extensive connective tissue proliferation. The case is one of unusual interest from a pathologic standpoint.



## COMMENT

The literature dealing with the integumentary manifestations of leukemia and pseudoleukemia, lymphogranulomatosis, lymphadenosis and the so-called aleukemic lymphadenides, contains several examples in many ways similar to the subject of this report, as far as the clinical and microscopic appearances are concerned. With a single exception, however, none of the skin changes described in these reports manifested a diffused cutaneous atrophy, with its attendant anetoderma. This exception is mentioned by McDonagh,<sup>6</sup> who had under his care a patient with lesions simulating dermatitis atrophicans.

Under the subtitle of Intermediary Aleukemia Cutis, McDonagh states:

The cases exhibiting erythrodermia may be divided into two classes: those in which the erythrodermia is widespread and often sufficient to produce total alopecia, and those in which the erythrodermia is localized to one or more patches. In both cases the erythrodermia may disappear before any tumor formation is seen, leaving either no trace behind it, or, more often, a marked pigmentation; or the tumor formation, especially in the localized cases, may appear in the center of the patches of erythrodermia.

The tumors may ulcerate, a process which usually results in their spontaneous cure—not in a cure of the disease, because fresh patches of erythrodermia with ultimate tumor formation, will appear elsewhere. I have had one singular case under my care, an exact replica of which I have never seen described.

CASE 86.—A man, aged 47 years, having had syphilis over twenty years before, sought advice for a skin lesion he had had for the last three years. The patient had a rash which extended over the upper half of the left side of the chest, the left shoulder and down the left arm to about the lower third. The rash was typical of dermatitis atrophicans, the skin rolled and looked thin, like cigarette paper, and the vessels were clearly discernible underneath. The periphery of the lesions simulated exactly the localized patches of erythrodermia, which precede the condition called lymphogranulomatosis cutis. The itching was intense and the skin trouble was undoubtedly spreading. On the arm, where the skin had not become atrophic, was a very slowly spreading ulcer, which simulated closely a rodent ulcer. All treatment was unavailing. The patient was not clear as to whether the ulcer had been preceded by a swelling in the skin or not.

McDonagh's interpretations of the clinical and pathologic changes taking place in the various diseases of lymphatic origin, together with closely allied conditions, such as mycosis fungoides, lymphodermia perniciosa, etc., are exceedingly interesting and instructive, and the portion of his book dealing with the biology of inflammation and malignant disease should be studied by anyone interested in the subject. An original dissertation on the relationship between mycosis fungoides, lymphodermia perniciosa and lymphogranulomatosis cutis will be found well worth careful study, the author's opinions being apparently founded entirely on his personal experiences and observations. He says that in his opinion, the three diseases mentioned above are, both

6. McDonagh, J. E. R.: *The Biology and Treatment of Venereal Diseases and the Biology of Inflammation and Its Relationship to Malignant Disease*, London: Harrison and Sons, 1915, p. 552.

clinically and histologically, names for different stages of the same condition—an opinion with which the writer of this paper does not entirely concur.

In my patient, described as an example of lymphadenosis cutis universalis, the diagnosis is based on the peculiar clinical and histologic findings. Clinically, the skin changes were looked on by several dermatologists as closely simulating mycosis fungoides, although to my eyes, such a simulation was not manifest at any stage of the disease. In mycosis fungoides true atrophy of the skin, with anetoderma or cigarette paper wrinkling, is not known to occur, even in the end stages of the malady; such a state of generalized atrophoderma is seen in diffuse idiopathic atrophy, in rare cases of leprosy and perhaps syphilis, and in the terminal periods of pityriasis rubra of Hebra. Furthermore, patients with mycosis fungoides almost invariably succumb to some intercurrent malady, to metastases in the viscera, to malnutrition or to a general toxemia. In my case there was an actual gain of 141½ pounds in weight under a rather meager hospital diet, during a period of about five months; this gain in weight took place within the last year, that is, the eighth or ninth year of his affliction. The only form of treatment to which the man was subjected during the past year has been the Roentgenization of the tumors and ulcers of the skin. Still another clinical feature not seen in mycosis fungoides is the almost universal, peculiarly patterned, reticulated pigmentation, which, at the present writing, has involved nearly every inch of his skin.

Histologically, mycosis fungoides may be readily excluded. There is not the usual variety and polymorphism of cells in the infiltrates, which one would expect to see in a mycosis fungoides of nearly nine years' standing; plasma cells are few and true giant cells are not present; the peculiar nests of endothelial cells described in the skin and lymph nodes are not seen in mycosis fungoides and constitute a peculiar feature of my case. The large subepidermal vesicles, present to a greater or less extent in nearly all of the sections, are not usually associated with mycosis fungoides.

For their aid in the study of the microscopic sections, I desire to thank Drs. E. J. Snyder and D. L. Satenstein; and to Dr. G. M. MacKee I extend my thanks for the photographic illustrations.

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NOTE. The discussion of Dr. Wise's article will appear with the discussion of Dr. Frazer's article on Mycosis Fungoides, which will appear in the December issue of THE JOURNAL.

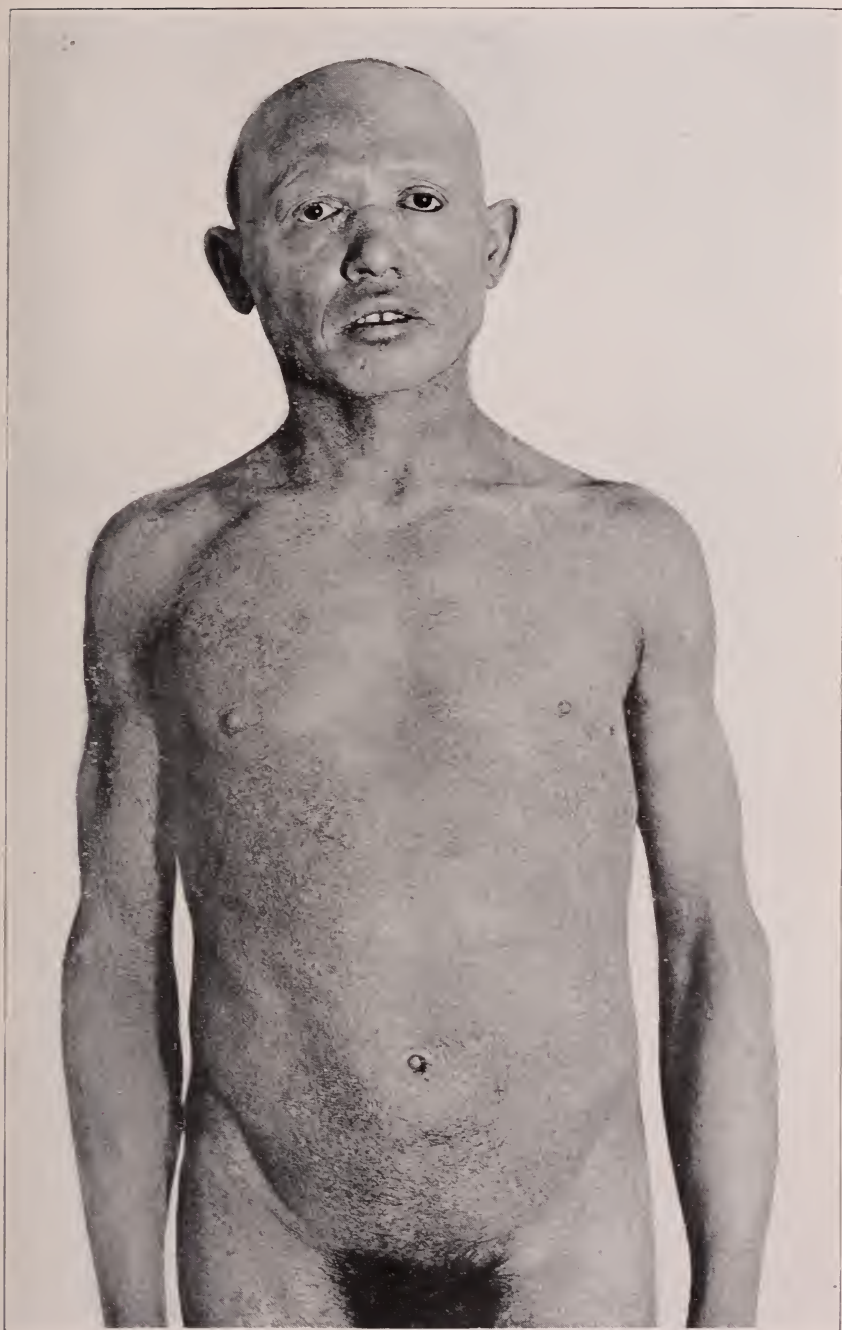


Fig. 1.—Showing edema of forehead and lip, alopecia, pigmentation and atrophy of the skin.

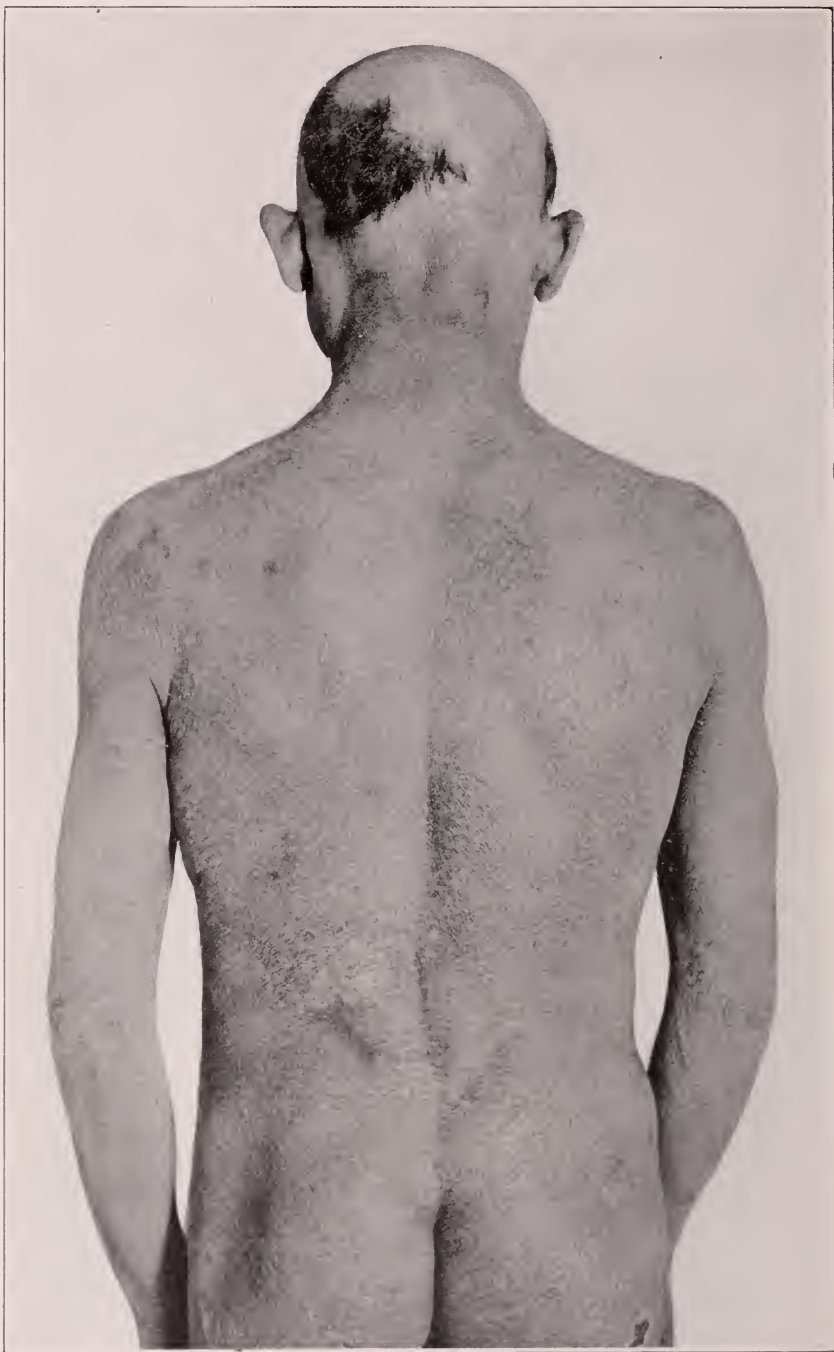


Fig. 2.—Showing alopecia, atrophy and pigmentation; eczematous area on left lumbar region.



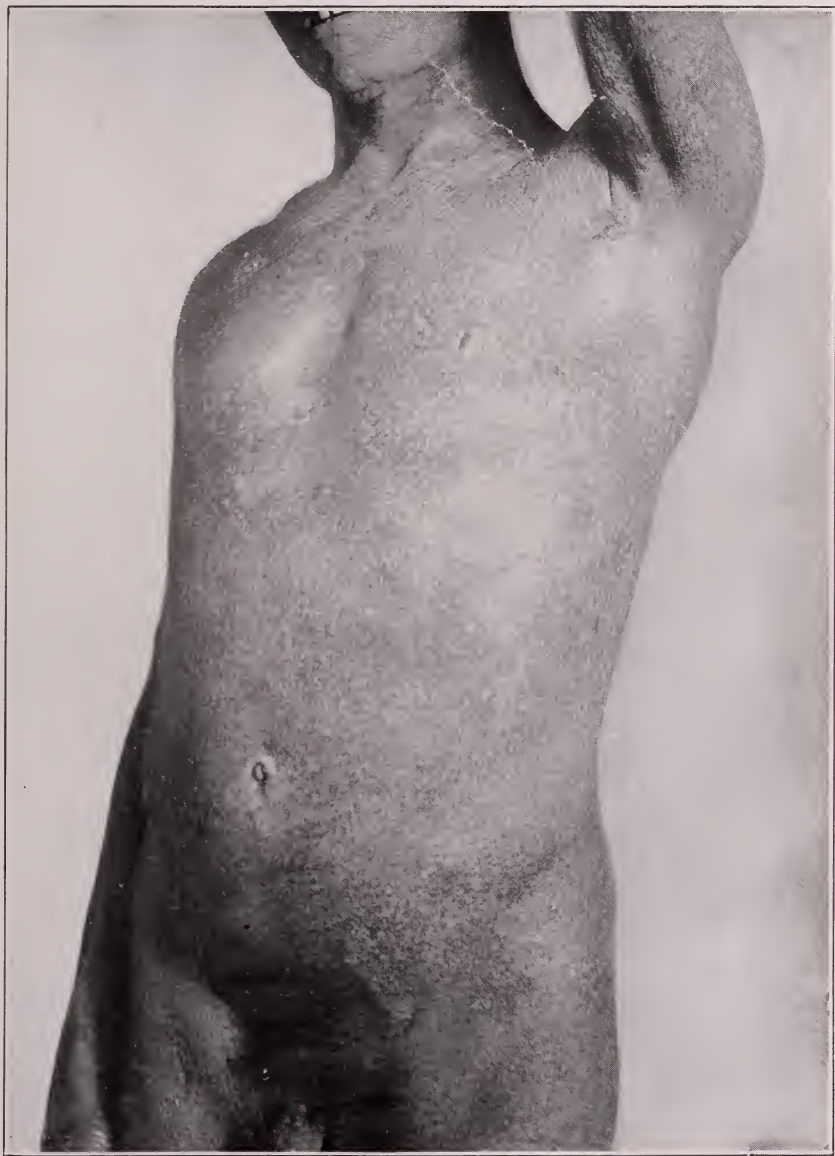


Fig. 3.—Showing pigmentation, atrophy and wrinkling of the skin; alopecia of the axilla.

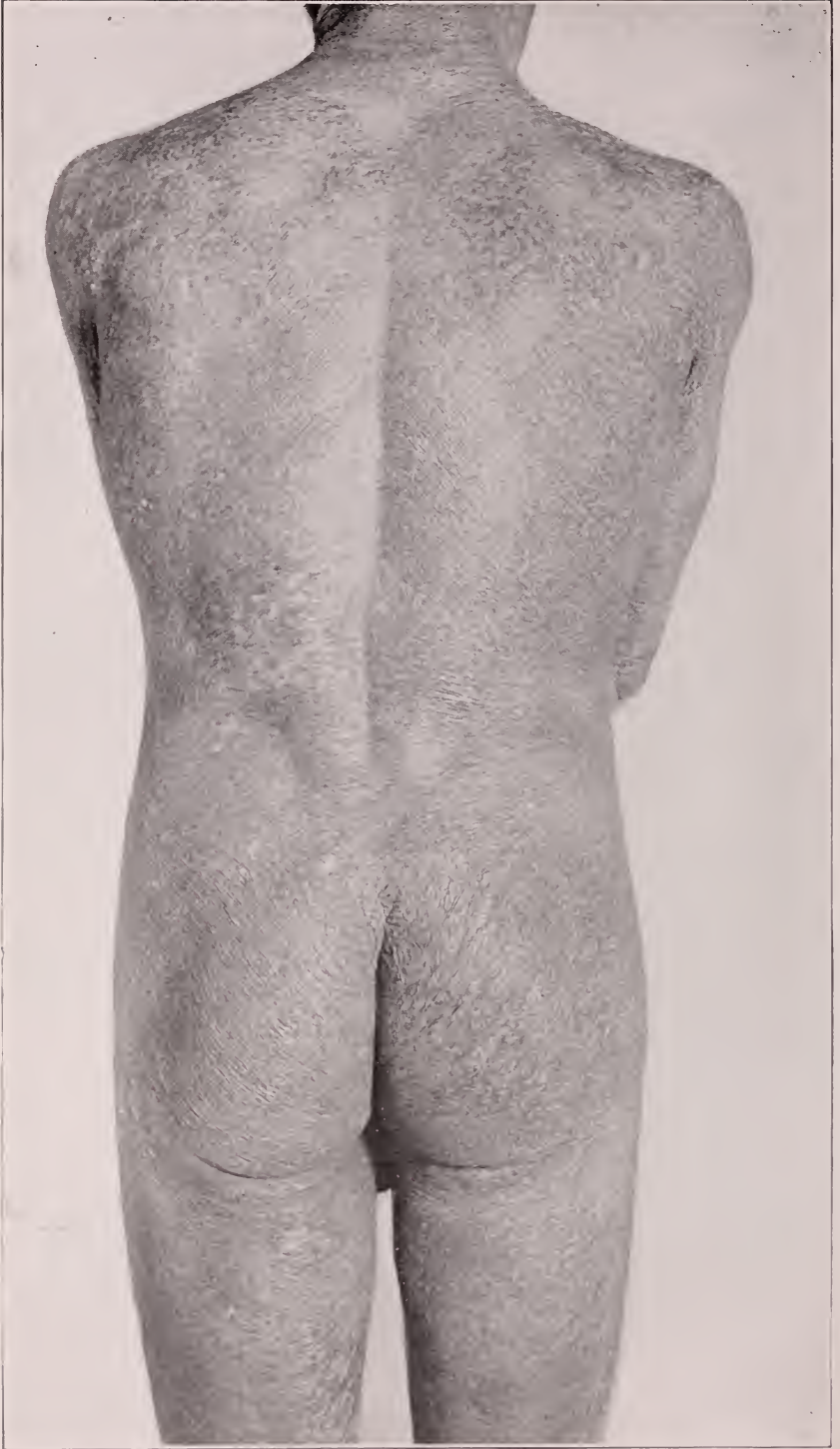


Fig. 4.—Showing atrophy, wrinkling and pigmentation of the skin.



Fig. 5.—Showing the mosaic-like, reticulated pigmentation of the chest wall; wrinkling and atrophy of the skin.



Fig. 6.—Acrodermatitis chronica atrophicans: showing the resemblance of this form of atrophy and wrinkling, to that of the preceding illustrations.





Fig. 7.—Showing two boggy tumors of forearm; reticulated pigmentation of the skin; anetoderma about the elbow.

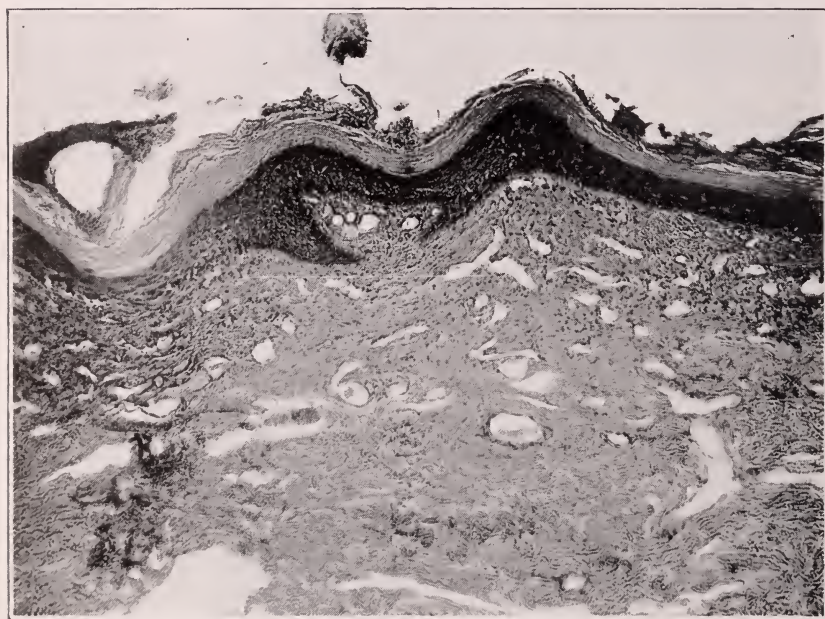


Fig. 8.—From skin between shoulder blades, showing intense edema of the entire skin; vascular and lymphatic dilatation; cellular infiltration; loss of papillæ; thin epidermis with hyperkeratotic horny layer.

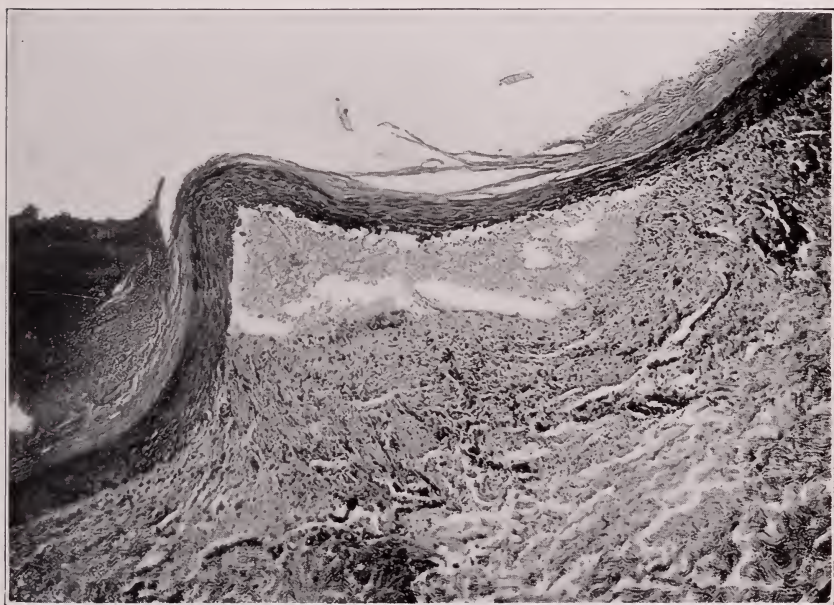


Fig. 9.—Skin showing atrophy of epidermis and subepidermal vesiculation; edema of cutis.

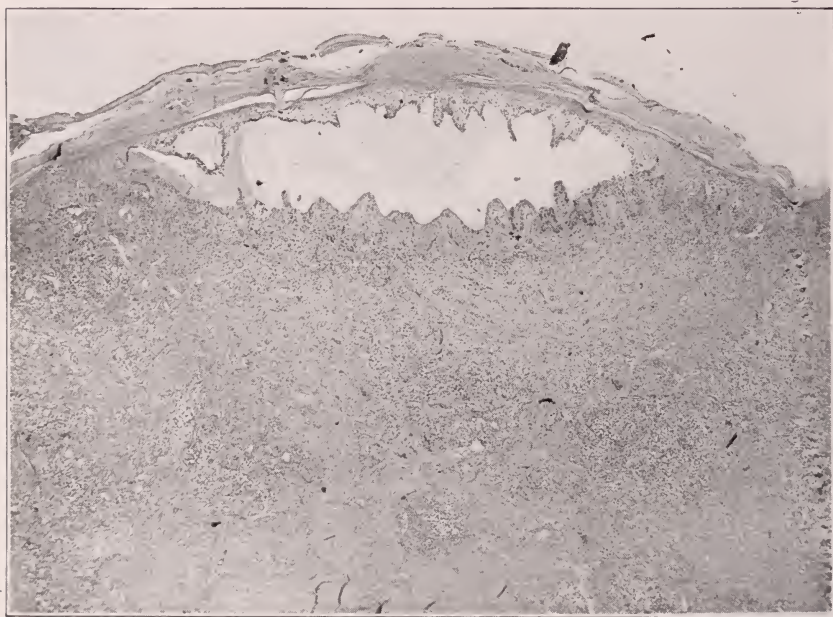


Fig. 10.—Skin removed from the friable skin overlying a boggy tumor of the back. Showing subepidermal vesiculation.



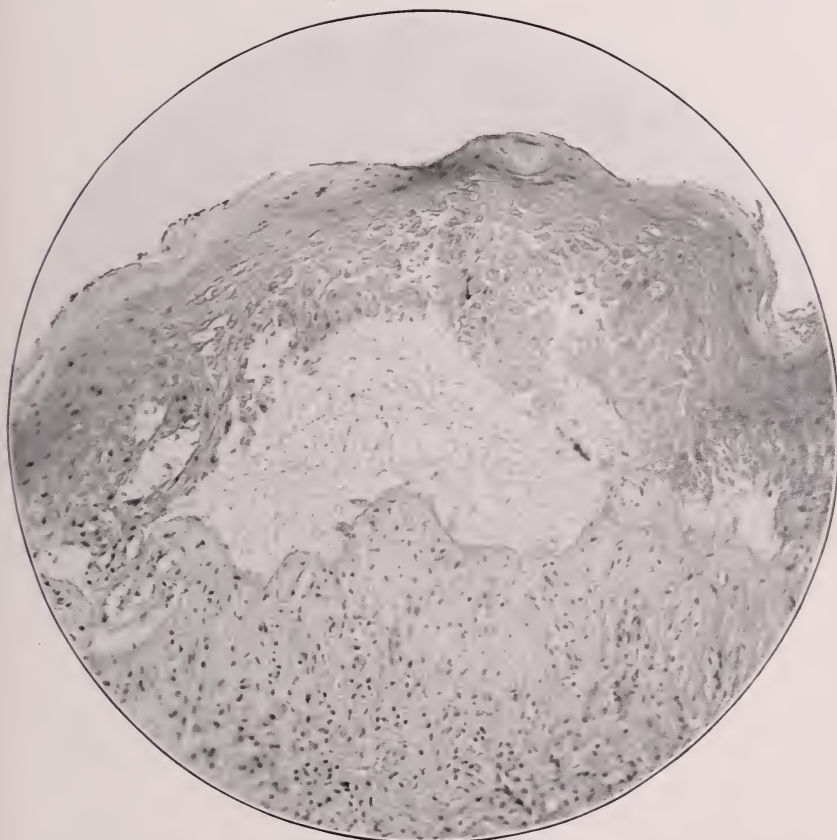


Fig. 11.—Skin showing subepidermal vesiculation.

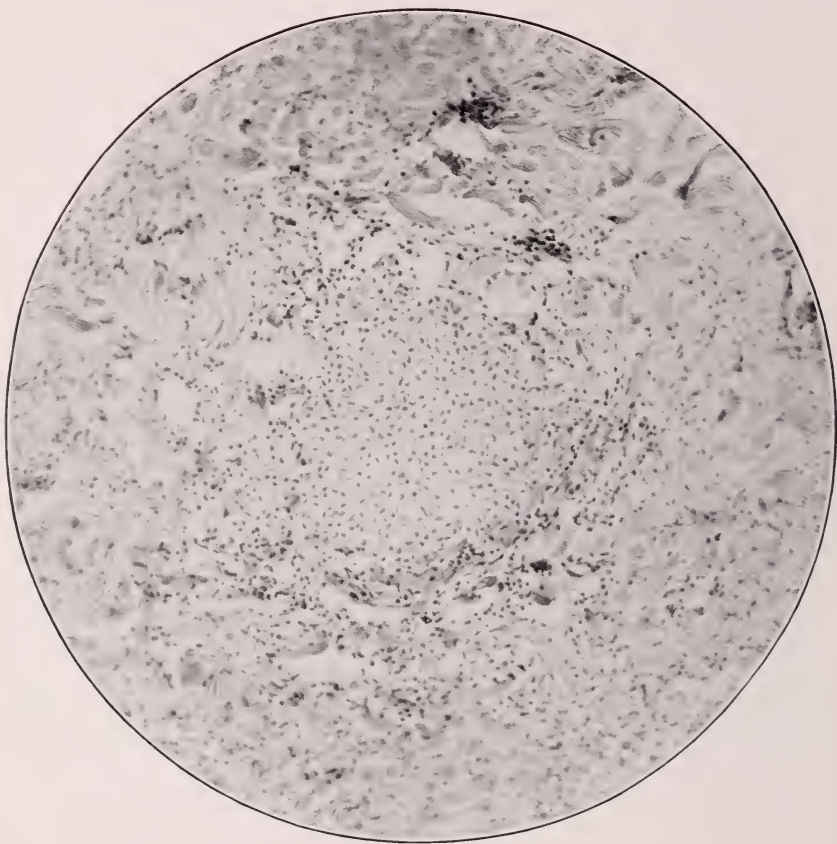


Fig. 12.—Skin showing area composed of embryonal cells of endothelial type. Zeiss obj. 8 mm. Co. oc. 4.

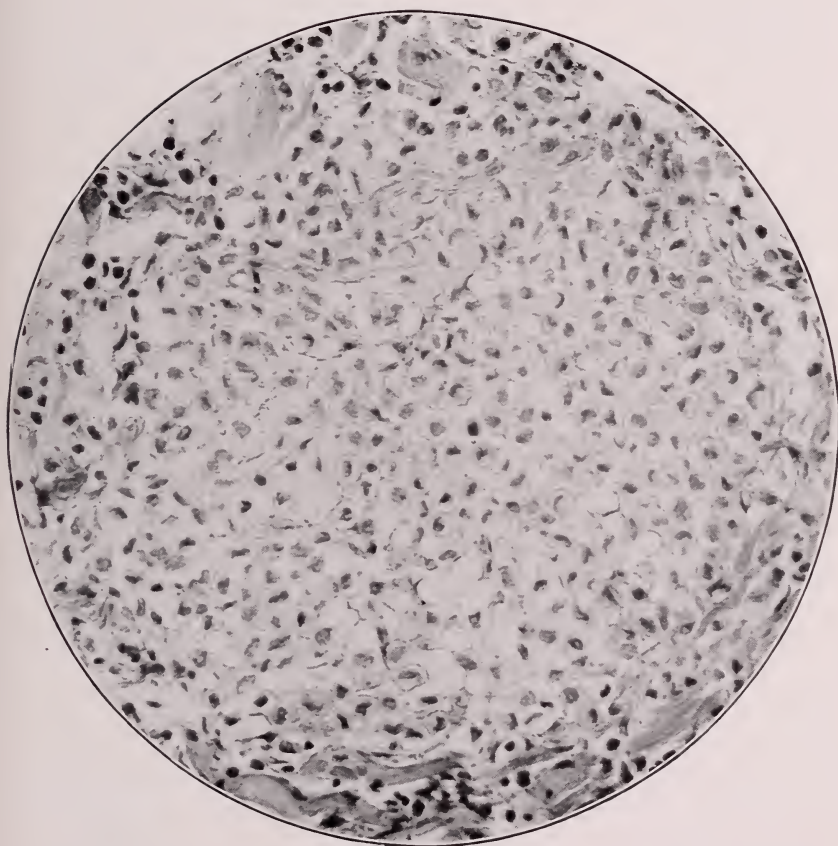


Fig. 13.—Skin showing groups of embryonal cells of endothelial type. Zeiss obj. 4 mm. Co. oc. 4.

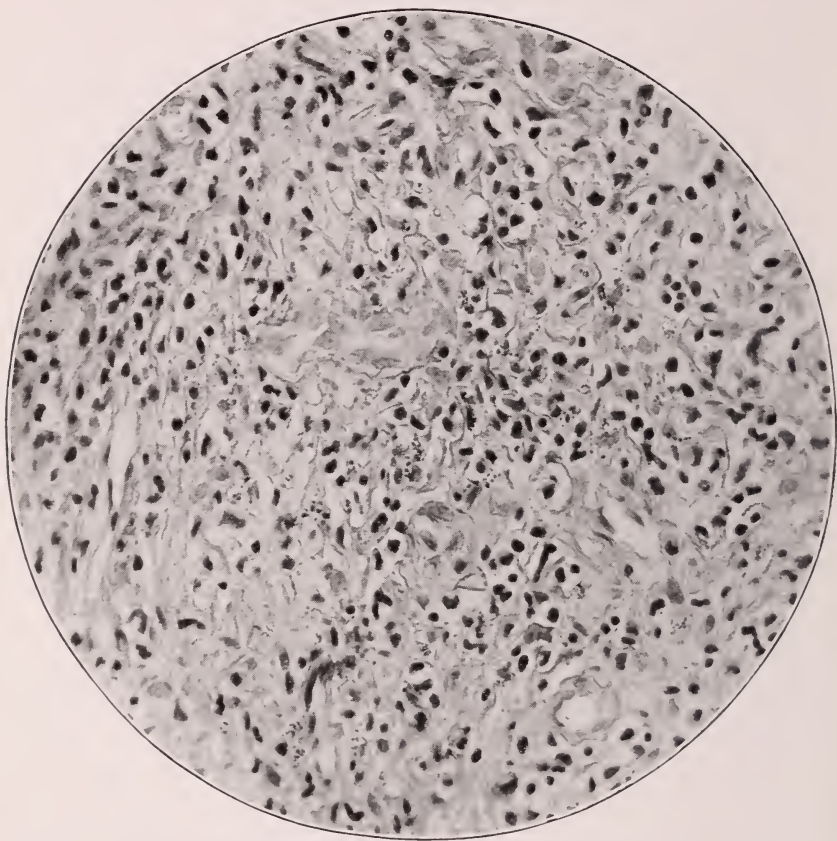


Fig. 14.—Skin showing intracellular pigment deposits. Zeiss obj. 4 mm. Co. oc. 4.



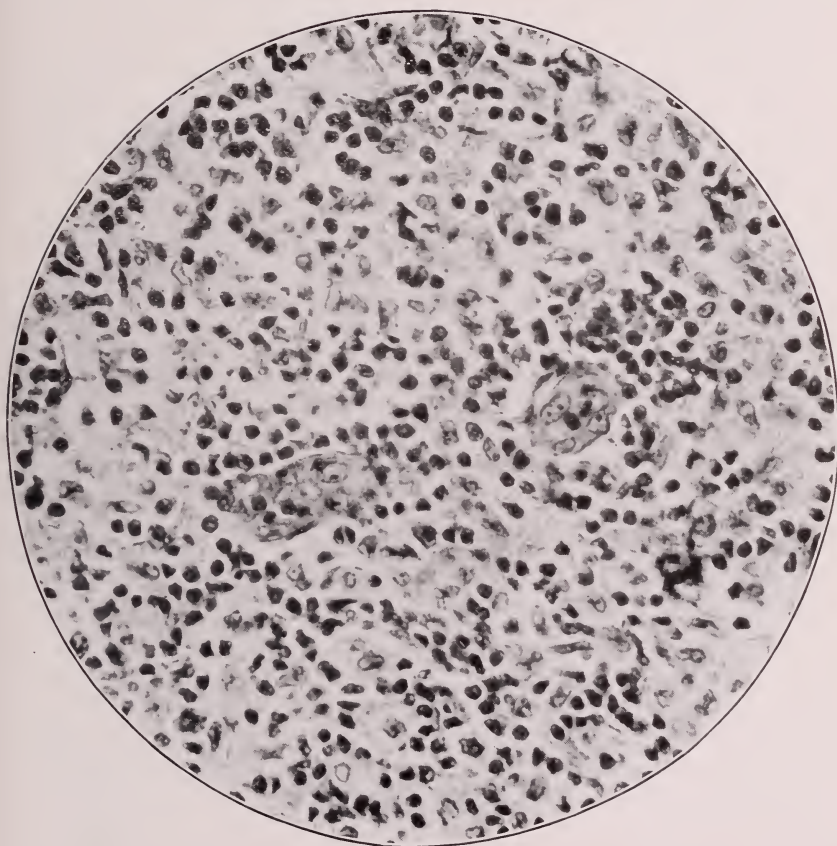


Fig. 15.—Gland showing fragments of blood vessels comprising swollen and proliferated endothelial cells and containing lymphocytes. Zeiss obj. 4 mm. Co. oc. 4.

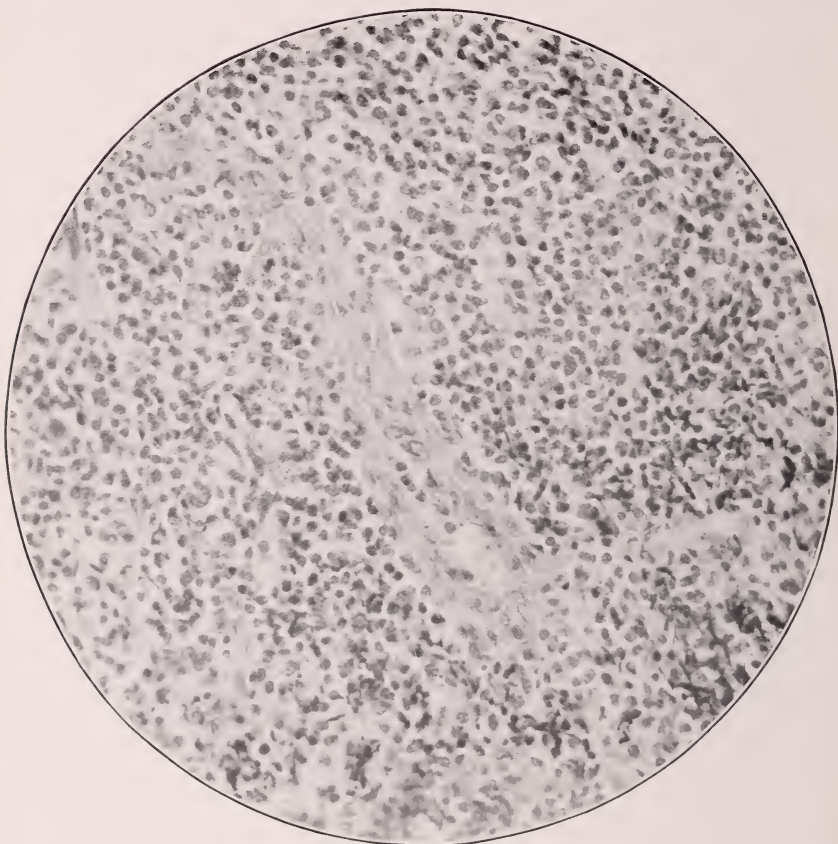


Fig. 16.—Gland showing thickened blood vessels due to proliferation of lymphocytes and containing lymphocytes; also giant cells, probably derived from such vessels.

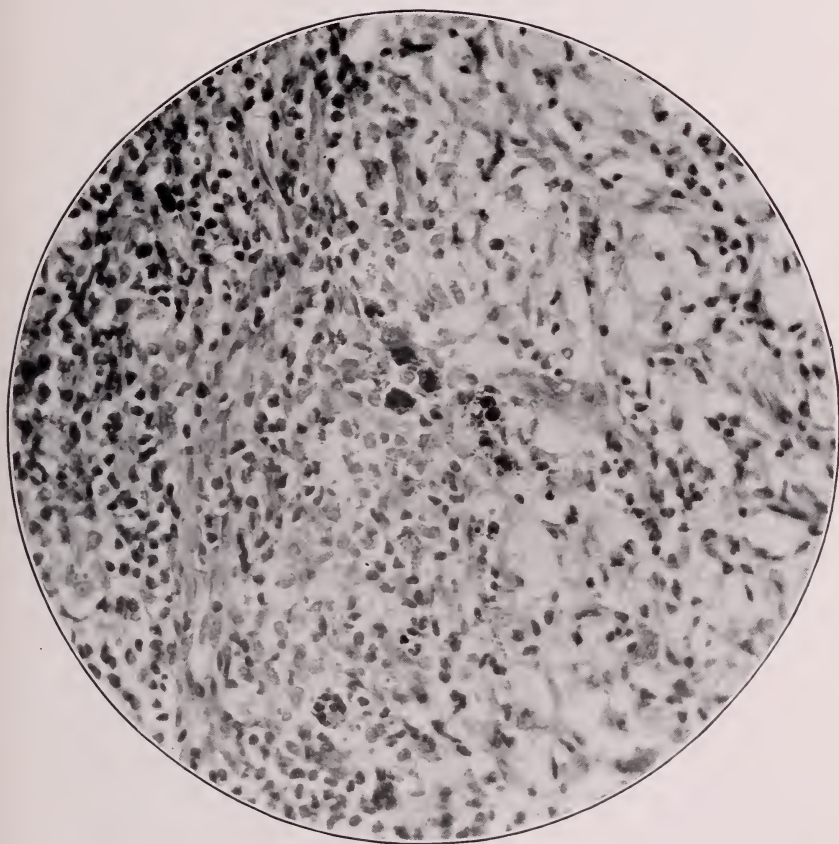


Fig. 17.—Gland showing intracellular pigment deposits. Zeiss obj. 4 mm.  
Co. oc. 4.

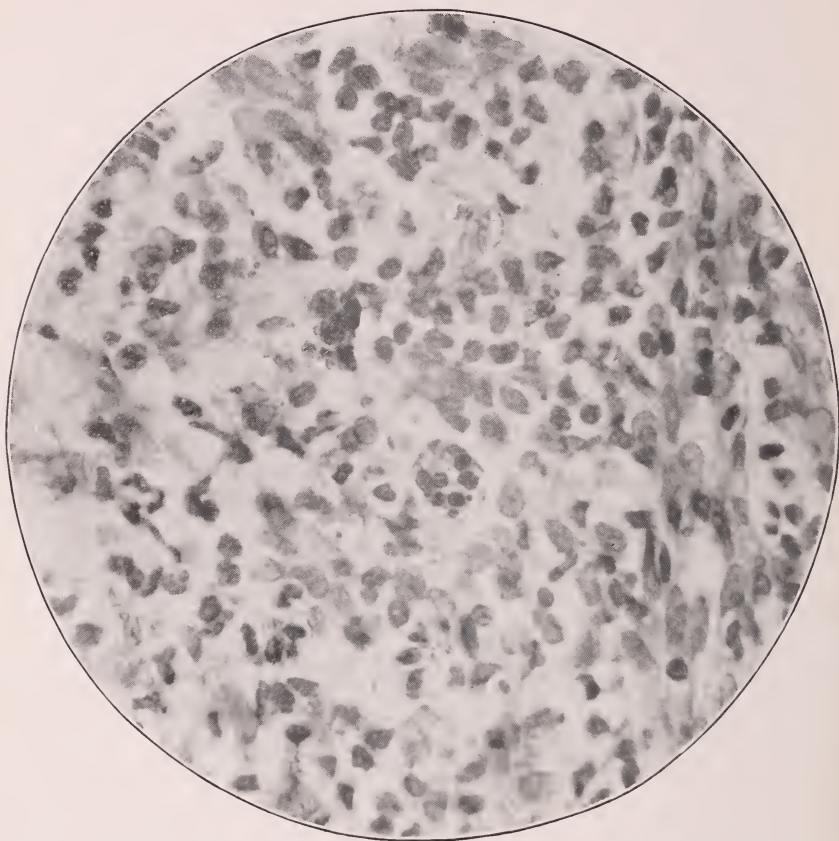


Fig. 18.—Gland showing intracellular pigment deposits. Zeiss obj. 3 mm. Co. oc. 12.



# Society Transactions

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## NEW YORK DERMATOLOGICAL SOCIETY

*Regular Meeting, Feb. 28, 1917*

JAMES C. JOHNSON, M.D., *President*

### PURPURA ANNULARIS TELANGIECTODES. PRESENTED BY DR. MACKEE FOR DR. FORDYCE.

The patient, a woman aged 34, exhibited an eruption which was of three months' duration and was limited to the legs and thighs. A similar attack occurred about a year ago, endured for about four months and disappeared without leaving atrophy. There were no subjective symptoms excepting a mild pruritus in the affected area and some indefinite rheumatic manifestations, both of which might have been coincidental. The eruption consisted of telangiectatic puncta which showed a marked tendency to arrange themselves in groups. Many of these groups were annular, the border being composed of dull-red puncta, and the center possessing a yellowish color. The color of the puncta could not be removed by pressure and many of these minute lesions were apparently follicular. There was no desquamation nor was there any atrophy. The eruption was in the stage of involution, so that the vivid coloring of the early periods was wanting.

Histologically, there was a moderate numerical increase in the superficial vessels, which arranged themselves in groups and were considerably dilated. The vessels in the papillæ and in the subpapillary layer were congested. An occasional hemorrhage could be seen. In one section a hemorrhage had destroyed a papilla and a part of the epidermis. The walls of the blood vessels were thickened and there was some endothelial proliferation, and a slight to moderate small, round cell, focal infiltration. In the sections examined, there was no distinct degeneration of the walls of the vessels. The papillæ were somewhat flattened out.

The speaker said that the eruption was not secondary to some previous condition, such as an eczema, nor was it associated with varicose veins. The patient had not taken any medicine previous to the two distinct outbreaks. The disease conformed, both clinically and histologically, with the description of purpura annularis telangiectodes, as found in the literature. It was, however, a mild case, and while there were numerous lesions, they were too faint to photograph.

### PEMPHIGUS OF MOUTH AND CONJUNCTIVA. PRESENTED BY DR. HOWARD FOX.

The patient, Anna L., was a Russian Jewess, 52 years of age (referred from the ophthalmological service of Dr. Rudolf Denig of the German Hospital). She did not recollect any illness previous to the birth of her first child, 31 years ago. This was followed by some gynecologic operation and since then she had suffered from leukorrhea, pains in the back, etc. She had had six children, two of whom had died. During the past year she had suffered from sore patches in the mouth "as if it had been scorched." About eight months ago she noticed bleeding from the gums and later from the nose. Four months ago actual blisters appeared on the tongue and palate. Shortly after bleeding from the nose appeared there was increased lachryma-

tion and the eyes appeared "red and bloodshot." For the past three or four months the lids had become less and less mobile by a growth on their surface. Examination showed a dozen reddish, glazed, superficially ulcerated, painful spots on the posterior part of the hard palate, soft palate, buccal mucous membrane and sides of the tongue. One pea-sized, flaccid bulla of two days' duration was present on the mucous membrane of the lower lip. The lids of the left eye were somewhat immobile and could not be widely opened. Both conjunctival surfaces were congested and the seat of a red, roughened tissue, extending from the scleral margin toward the edge of the cornea, especially at the inner canthus. This produced a general shrinking of the exposed surface of the eyeball. The patient was well nourished, but had lost a good deal of weight in the past six months.

#### DISCUSSION

DR. CLARK said that at another meeting, a few nights before, he had heard Dr. Weidler report on two cases of what he called pemphigus of the conjunctiva, and the description of this case tallied exactly with Dr. Weidler's—the apparent tendency to fill up from the bottom of the sulcus and for the eyelids to more or less grow together, restricting the opening of the lids, an essential shrinkage. This seemed to be a true pemphigus of the lids and of the mucous membranes of the mouth and was a most interesting case.

DR. WHITEHOUSE said that the essential shrinking of the eyelids was typical.

DR. HEIMANN said that he had seen a case of Dr. Martin Cohen's last summer in which the lesions had been restricted to the eyelids for a number of years, and finally typical pemphigus lesions appeared on the arms and elsewhere. He agreed with the diagnosis.

DR. HOWARD FOX thought it proper to classify this disease as one of pemphigus, although it was true that the term was generally understood to apply to one of four classes of skin affections which were invariably more or less generalized. Some cases, however, with localized lesions (similar to the one presented) eventually developed generalized pemphigus of the skin, even though at times the disease had previously been apparently localized in the mouth and conjunctiva for many years.

#### PSEUDOLEUKEMIA CUTIS. PRESENTED BY DR. CLARK.

The patient, T. G., male, was a Russian by birth, 30 years of age. About three years ago the patient, who was a large, well nourished man, began to suffer from an intolerable itching of the skin in various parts of the body and about the same time he began to notice brown patches on the skin of the arms and legs, where the itching was, most intense. These brown stains had persisted, as well as the itching, and other brown areas had appeared on the arms and legs, and some on the trunk. Seven weeks ago the patient began to suffer from severe pain in the region of the shoulder, and groups of blisters appeared in front and on the back of the shoulder, which later crusted; later the crusts came off, leaving superficially stained areas in groups. A year ago the patient first noticed some enlargements in the axillary regions, groins and cervical regions, which had slowly increased in size.

The patient was a large, well formed man, showing some pallor of skin. There was a rather characteristic glandular enlargement of considerable extent in the groins and axillary regions, and appreciable enlargement of the cervical glands. The spleen was not appreciably enlarged. Scattered on the arms, particularly on the posterior aspect, on the lower part of the legs and on the sides of the chest and back were numerous large and small reddish-brown areas, infiltrated patches, and variously sized flat nodules in the skin, of a similar color. These lesions showed no signs of ulceration or of tending to disappear; they shaded off gradually into the surrounding tissues and tended to run together, presenting in areas a picture not unlike the premycotic stage

of mycosis fungoides. It was interesting to note that the skin lesions began to appear two years before the patient noticed any glandular enlargement or experienced any failing health. On the left shoulder there were grouped areas that probably represented a herpes zoster beginning seven weeks ago, with lancinating pains in that region.

The patient's Wassermann was negative.

The blood picture was: Erythrocytes, 7,460,000; leukocytes, 8,600; polynuclears, 60 per cent.; small lymphocytes, 37 per cent.; large lymphocytes, 3 per cent.

#### DISCUSSION

DR. HOWARD FOX suggested the possibility of mycosis fungoides, but thought that the diagnosis could be settled only by the microscope.

DR. MACKEE agreed with Dr. Fox. While the enlarged glands, occurring so early, would favor a diagnosis of leukemia, he thought a histologic study should precede an attempt to differentiate between leukemia and mycosis fungoides. He then called attention to the fact that roentgen-ray treatment was likely to be less efficacious in leukemia cutis than in mycosis fungoides.

DR. WISE agreed with Dr. Fox's diagnosis at the present stage of the disease, and expressed the opinion that frequent examination of the blood should be made, bearing in mind the possibility of the presence of leukemia.

DR. HEIMANN agreed with Dr. Wise. The patient's blood picture was not normal, to begin with. The lymphocytosis was 40 per cent., of which 37 per cent. were small leukocytes as against a normal count of 25 to 30 per cent., and a total of not over 35 per cent. Glandular enlargement was the exception until an advanced stage of the disease had been reached. For these reasons he was inclined to agree in general with the diagnosis, except that he would go farther and call it leukemic rather than pseudoleukemic or aleukemic leukemia.

DR. CLARK in reply to an inquiry from Dr. Heimann as to whether the blood count was taken before or after the roentgen-ray treatment, said that it was taken before the patient had any roentgen-ray treatment.

#### ALOPECIA AREATA. PRESENTED BY DR. HOWARD FOX.

The patient, A. S., was a girl 7 years of age, born in the United States of German-American parents. She was first seen on March 9, 1916. At that time it was stated that her hair had fallen out two and a half years before, following an unknown fever of six weeks' duration. The scalp was entirely bald except for a few long strands of hair at the posterior part of the vertex. During the past year she had received altogether fourteen treatments with the Alpine lamp and on presentation the vertex was fairly well covered with long stiff hair. The lower portions of the occipital and parietal regions were still bald.

#### DISCUSSION

DR. CLARK said there seemed to be a very distinct growth of hair on the top of the head. The treatment would seem to have had some effect.

DR. WHITEHOUSE thought that probably the growth of the hair was promoted by the light treatment. He himself had employed the Kromayer light in such cases with good results.

DR. SHERWELL expressed himself as being in favor of treating the patient constitutionally with thyroid, as he thought the regenerative influence of such treatment would be decidedly beneficial. He also thought, from the appearance of the patient, that Syrup ferri iodidi and arsenic would be beneficial.

DR. WISE said that he had treated several cases with the Alpine light, but did not get any better results than with the older methods of treatment.

DR. MACKEE said that the case seemed to prove that the ultra-violet rays encouraged the growth of hair in alopecia areata. The fact that the hair had

grown only on the parts subjected to the treatment and that it had not fallen out again was very interesting.

DR. HOWARD FOX said that of course no conclusion could be deduced from the result in one case. During the past year he has treated about fifteen cases of alopecia areata with the Kromayer and Alpine lamps and was rather favorably impressed with the results obtained. At all events, the interest of the patients was sufficiently aroused to allow treatment to extend over a long period, in the great majority of the cases, until a cure had been obtained.

#### LEUKEMIA CUTIS (?). PRESENTED BY DR. CLARK.

The patient, T. R., was a man, 48 years of age, born in Russia. About eight months ago he began to have rapidly growing swellings in the cervical and axillary regions and in the groins; he also suffered from a feeling of fulness in the upper part of the abdomen and lost flesh and strength. At that time he applied to the medical department of the Postgraduate Hospital, where the diagnosis was made and the patient was put under intramuscular injections or arsenic, without much effect. Five months ago he began to have roentgen-ray exposures made to the various regions of glandular enlargement and over his spleen, with a gradual but very marked reduction in the size of the glands and spleen, though they could still be palpated. He had experienced some improvement in his general health since he began having roentgen-ray exposures.

Five weeks ago, small, firm, discrete lumps that were very itchy began to appear on his arms and lower legs, and a week ago lesions appeared on the forehead and face, accompanied by itching so intense that he has scratched them severely and could not sleep.

On the extensor surfaces of his arms and lower legs and on his face (mainly on the forehead) were numerous reddish or reddish-brown firm, discrete papules, varying in size from that of a millet-seed to that of a small split pea, some of which had been severely scratched, all of which were itchy and showed no tendency to disappear. There were no lesions on the trunk. The lesions did not seem to run together, but some were apparently growing larger. They were quite firm, solid nodules.

Six months ago the patient had a leukocytosis of 405,600, of which 2 per cent. were polynuclears, 4 per cent. large mononuclear lymphocytes, and 94 per cent. were small lymphocytes.

#### DISCUSSION

DR. WISE agreed with the diagnosis as presented.

DR. WHITEHOUSE said that he was interested in the case because a few years ago he had presented before the Society a case of lymphatic leukemia with an eruption that was not distinguishable from dermatitis herpetiformis—papules and vesicles with grouping, intense itching, etc.—very similar to this one excepting that this one was not the papulovesicular type. At that time Dr. Fordyce suggested that cases like this might give some clue to the cause of dermatitis herpetiformis, which we knew very little about, etiologically.

DR. WILLIAMS said that some men had called attention to the resemblance to prurigo nodularis. He did not agree with that suggestion: in that disease the papules began deeper in the skin and the epithelium was at first normal and of normal color. Later, the epithelium became greatly thickened and even horny.

DR. CLARK said he would try to have a biopsy made in both cases which he had presented and report on them later.

#### SUPERFICIAL LUPUS VULGARIS OF SERPIGINOUS TYPE. PRESENTED BY DR. HOWARD FOX.

The patient, M. L., was a Jewish woman, 39 years of age, born in Jamaica, West Indies. There was no history of tuberculosis in her family. Her father



had died of an unknown disease. Her mother, four brothers and five sisters were living and healthy. She had been married 22 years and had seven children, all of whom, she stated, were apparently healthy. The eruption first appeared on the back of the left knee, when she was 17 years of age. About fifteen years ago the lesions appeared on the face. The eruption later involved both hands and forearms and both legs, requiring several years to attain its maximum development. Of late years, the spreading of the disease had been very slow. About ten years ago she began to be treated by a physician in Jamaica with the roentgen ray, receiving several hundred treatments in the course of the past ten years. Shortly after the roentgen ray had been used, a radiodermatitis appeared. At times she had been severely burned and on one occasion was confined to her bed for five months as the result of a roentgen-ray burn of the leg.

The eruption was present on the face, forearms, hands and legs. On portions of these regions there was evidence of a very severe radiodermatitis where former lesions had been treated. The eruption was a superficial, serpiginous process, with a narrow, sharp, wavy, advancing border. This active border was elevated, firm, infiltrated, dry, smooth and of a dull red color. There was no appreciable scaling, no ulcerating, no evidence of itching and no change in cutaneous sensation. There were no typical apple-jelly nodules to be seen. On the right forearm the active border was sharply circumscribed toward its proximal side and formed a complete band, one half an inch thick around the lower third of the forearm. The back of the right hand showed marked radiodermatitis, but no apparent evidence of tuberculosis. On the left forearm the border did not extend around the entire circumference, being broken on the flexor aspect. Distal to the elevated border was a dull, reddish area perceptible for an inch or more, fading as it approached the wrist. The left hand showed marked radiodermatitis, including atrophy and partial ankylosis of the bones of the middle, ring and little fingers. On the left side of the face there was a nickel sized, semicircular, infiltrated patch and along the left edge of the lower jaw an area of radiodermatitis, including two small ulcers. The lesions on the right leg were somewhat similar to those on the left arm. They consisted of the usual elevated border, beginning below the knee and extending along the outer aspect of the junction of the upper and middle two thirds of the leg, downward and backward in an oblique direction. From this line toward the ankle there was a diffuse bluish discoloration. The left leg showed no active lesions. There was, however, a circle about 8 inches in diameter, of radiodermatitis extending around the entire knee.

#### DISCUSSION

DR. CLARK said that he would have difficulty in determining this to be a lupus vulgaris, as he could not see any lupus nodules. His first impression was that it was lupus erythematosus.

DR. WHITEHOUSE said that his thought was of lepra; that was fully worth considering in this instance. He would not think of lupus until an investigation was made as to its being a possible lepride; the lesions on the face showed the characteristic infiltration suggestive of lepra. He had not seen any lupus of that type.

DR. SHERWELL said that bearing in mind the patient's place of origin the same thought had occurred to him as that expressed by Dr. Whitehouse.

DR. WISE agreed with the diagnosis of lupus vulgaris of the superficial type, having seen similar instances.

DR. WILLIAMS said that the case resembled several that he had seen in the last few years, in the lack of typical lupus nodules: it had not the clinical appearance of lupus. On the other hand, like other cases, it showed the purplish discoloration, infiltration, sharp margins and very slow progression. The two cases that he knew of showed, on microscopic examination, the usual

picture of tuberculosis. They went on with little or no crusting or ulceration and a very slow progress.

DR. HOWARD FOX said he had made a diagnosis of an unusual form of superficial tuberculosis of the skin by exclusion of other diseases and from a study of several somewhat similar cases. The eruption had existed for twenty years, spreading very gradually and never ulcerating at any time. No one, he thought, would consider syphilis in this case. He thought lupus erythematosus could be excluded on account of the raised, infiltrated border and the absence of scaling and atrophy, typical of this disease. Leprosy, he felt sure, could be excluded by the total absence of any change in the sensation of the patches. The fact that the patient had always lived in the West Indies was merely suggestive of leprosy. There was no history that would point to this disease and no symptoms, such as enlargement of the ulnar nerves, tingling of the fingers, etc. Among other similar cases which he had seen and had proved histologically to be tuberculosis was one that he had published under title of "Three Unusual Forms of Cutaneous Tuberculosis," in THE JOURNAL OF CUTANEOUS DISEASES in 1912.

#### LYMPHOSARCOMA (?) OF THE SCALP. PRESENTED BY DR. CLARK.

This patient had been presented for diagnosis at the previous meeting. A section had been taken from one of the nodules on the head and Dr. Heimann reported the condition to be lymphosarcoma. The patient had received one roentgen-ray treatment on Friday (four days previously) and was told to report in three or four days; yesterday he reported that all the nodules had disappeared. He was then asked to come to the meeting, and examination showed that he was correct, for apparently the nodules were gone. His blood picture had showed a relatively small lymphocytosis of 49 per cent.

#### DISCUSSION

DR. HOWARD FOX considered the result of the roentgen-ray treatment in this case to be extraordinarily good.

DR. MACKEE said it was well known that sarcomas, especially the benign or semimalignant types, would not infrequently undergo rapid involution following roentgenization; but that it was inconceivable that a lesion of any disease, even mycosis fungoides, could almost completely disappear within four or five days after an intensive roentgen-ray treatment, as had apparently occurred in Dr. Clark's case. He thought the explanation was that the involution was spontaneous and had been under way for some time before the roentgen-ray exposure. When the patient was exhibited at the last meeting some of the lesions were then growing smaller, and the larger lesions were fluctuating, which probably represented the beginning of spontaneous involution.

DR. HEIMANN said that if it had not been covered by epidermis he would have called it a lymph gland, it was so characteristically a lymphosarcoma. Outside of the involved area, the connective tissue was normal, as if the pathologic tissue had insinuated itself and grown forward, pushing away the normal collagen as it advanced. The cells were uniform in size, and had very deeply staining, large nuclei with a great deal of chromatin and a small amount of cytoplasm. One interesting feature was that the patient had an abnormal blood picture. He had wondered if this was a borderline case of sarcoma of the skin, connecting sarcoma with leukemia and mycosis fungoides.

DR. WILLIAMS said that there was not only a disappearance of the lesion but an atrophy of the skin where it had been. Last week there was an excrescence almost bony hard; at the second presentation the examining finger detected an unevenness, it was true, but an unevenness due to depression rather than to elevation, at the site of the lesion.

DR. CLARK said that, bearing in mind the possible relationship of the conditions mentioned, he had had a blood examination made, and it presented a

lymphocytosis of 49 per cent., which was some 14 per cent. higher than normal, and a relative increase in the small lymphocytes. He was as much surprised at the result of the treatment as any one, if it was due to that treatment. One had to bear in mind the history of this case. When it was first presented, he had spoken of certain rather distinct nodules toward the margin of the temple, which showed then only a slight infiltration or erythema. There was an interesting history of trauma connected with the case. The patient had lived for ten or twelve years in a house with a little cellar door, and many times in going down to this cellar he had had a sore head from banging it against the door, and he ascribed the condition to this bruising of his head in passing through the door. The blood picture presented was taken before the Roentgen-ray treatment. The speaker said he would endeavor to follow up the patient's blood picture from time to time.

LICHEN SCROFULOSORUM. PRESENTED BY DR. WHITEHOUSE.

The patient, C. B., was a woman, 26 years of age. Fourteen months ago she first noticed a reddish rash on the flexor surface of the left wrist. Ten months ago, an eruption of fine "pimples" appeared on the flexor surface of the left forearm. Nine months ago, a patch of fine reddish "pimples" came on the left side of the neck. Since then other patches appeared over the lower part of the sternum, on the flexor surface of the left forearm and upper arm, back of the right axilla and on the right hip. No new ones had appeared recently, but the patches seemed to have spread with the formation of fine papules. The lesions had never itched. The patient's general health was good. She was well-nourished and healthy looking. There was no tuberculosis in the family.

The lesions were fine, acuminate papules, pinpoint to pinhead in size, reddish, yellowish or brownish in color, showing distinct grouping. Where they were disappearing, they left some staining but no scarring; some lesions were quite shiny, others seemed to have a little scale on them. On the posterior surface of the arms and thighs there was a pronounced keratosis pilaris.

DISCUSSION

DR. WISE said that it was a highly interesting case and he would be pleased to know the result of a histologic examination.

DR. HEIMANN said the only other condition to be considered was lichen nitidus, but as the structure of the latter was also tuberculous this might contribute an artificial rather than a practical distinction.

DR. CLARK agreed with the diagnosis, and told of two similar cases which he had presented before the society. Some of the members had brought out the fact that the lesions should be the color of the skin. He did not consider that necessary; the few cases he had seen had varied in color. The slight scaliness of these lesions and the tendency to group, even though they occurred in a woman with no tuberculous history, would lead him to agree with the diagnosis as presented.

DR. WHITEHOUSE said he could suggest no other diagnosis, though the condition was atypical. All of these cases indicated a tuberculous condition, and possibly some evidence of this might be elicited on further study of the case. The color of the lesion was unusual—red. A biopsy, as had been suggested, would probably decide the matter, and he would try to get one.

LUPUS VULGARIS OR LUPUS ERYTHEMATOSUS WITH EPI-  
THELIOMA. PRESENTED BY DR. HOWARD FOX.

The patient, H. J. H., was a man, 57 years of age, born in England, an enameller by occupation. He had come to this country as an infant. There was no history of family tuberculosis. He had two brothers and two sisters, living and healthy. He had suffered from a severe attack of scarlet fever as



a child and for the past twenty years from dyspepsia and occasional attacks of chills and fever. The eruption first appeared eight years ago on the bridge of the nose and later on the cheeks, spreading by formation of new patches and not by continuity. Since then it had gradually involved the entire face and neck and portions of the scalp. It appeared on the backs of the hands and wrists about four years ago. The eruption attained its maximum development on the face in about five years. Three years ago the horny mass on the right cheek first appeared and gradually increased in size. About two years ago the horny lesions on the left cheek and right ear and side of neck were first noticed. At times he had complained of slight itching, chiefly on the hands. On two occasions the large horny masses on the cheeks had been removed forcibly, leaving raw surfaces beneath, but in two or three months they had become as thickly crusted as before.

On examination, a diffuse, dull reddish infiltrated eruption was present on almost the entire face, ears, entire circumference of the neck and along the junction of the forehead and scalp. There was only slight scaling, no oozing, no scarring and no evidence of itching. The region of the eyelids and eyebrows was apparently unaffected. The border of the eruption was fairly well circumscribed and showed, especially on the forehead, isolated pin head lesions, very suggestive of apple jelly nodules. On glass pressure, brownish stains were to be seen. In the center of the right cheek was a mass, two and a quarter inches in diameter by three quarters of an inch in height. It consisted of brittle, greenish yellow crusts, with ill smelling discharge. On the left cheek was a similar, but somewhat smaller lesion where, however, the crusts were extremely hard to the touch. There were also numerous masses, some of them real cutaneous horns, on the right ear (helix and tragus) and along the border of the lower jaw. On the backs of the hands, fingers and wrists were thickened, dry, red, scaly and somewhat tender, fairly sharply bordered areas, closely resembling lupus erythematosus. The Wassermann reaction was negative. The urine showed nothing abnormal. The histologic examination had not been completed. The patient was in apparent good health, being a man of medium height and weighing 150 pounds.

#### DISCUSSION

DR. CLARK thought that the general condition on the face and hands suggested lupus erythematosus and epitheliomata.

DR. WHITEHOUSE agreed with Dr. Clark that the case suggested lupus erythematosus.

DR. MACKEE said that the case looked like one of lupus erythematosus, but that it might be lupus vulgaris. The ulcerating lesions were certainly epitheliomas. While epithelioma was seen in connection with lupus vulgaris far more frequently than with lupus erythematosus, he had seen the latter combination in two instances, and there were quite a number of such reports in the literature. Epithelioma when occurring in a lupus scar was usually of the malignant, squamous type. For this reason he favored some radical surgical measure, followed by roentgen-ray treatment, which should also be applied to the neighboring glands.

#### ROENTGEN-RAY ULCERATION. PRESENTED BY DR. MACKEE.

The patient was a man, 35 years of age. An epithelioma of the superficial serpiginous type developed on the nose about three years ago and was still present. Later, lesions developed on the chin and cheek over the left mandible; these were more deeply seated than those of the nose and they produced some ulceration and crusting. Roentgen-ray treatments were begun between two and three years ago, and the subsequent roentgen-ray erythema and ulceration were regarded as manifestations of the disease for which the patient was undergoing treatment, which was thought to be lupus vulgaris, so that roentgenization was continued.



The patient was first seen by the speaker in May, 1916, three weeks after an intensive roentgen-ray treatment. At that time there was an ulcer about 3 by 1½ inches along the mandible. It had a dry, glistening yellowish base, with slightly infiltrated margins, and was intensely painful. This ulcer had been present for nearly a year and had received several intensive roentgen-ray treatments. The pain began to diminish in November, 1916, and when presented before the Society the patient was fairly comfortable. In addition, the ulcer had closed in about one-quarter of an inch along the entire margin. At this rate of progress, it would require about two years for complete healing to take place, and the resulting scar might be potentially dangerous later in life. For these reasons, the speaker had advised a complete excision or a thorough curettage with subsequent skin grafting.

The speaker said that the case emphasized the fact that the roentgenologist, no matter how expert, was not qualified to treat dermatologic conditions on his own responsibility. In this particular instance, the patient had been sent by a dermatologist to the roentgenologist for roentgen-ray treatment. The roentgenologist failed to recognize the radiodermatitis when it developed. The roentgenologist, in this instance one of the most expert men in the country, should not be unjustly criticized, because the speaker had seen the same thing on three occasions in the private practice of dermatologists. He had seen cases of syphilis treated by the roentgen ray under the diagnosis of lupus. This and other similar errors would be less likely to occur in the hands of a well-trained dermatologist. On the other hand, in order to avoid untoward results, the dermatologist should be well-trained in roentgen-ray work or, if not, should send the patient to a roentgenologist for treatment and both men should continue to observe the case.

#### DISCUSSION

Dr. CLARK said that he was much interested in this case, for he had first seen the patient two or three years ago, when he appeared with a lesion below the corner of the mouth, on the cheek, which was rather punched-out in character; he also then showed a healed lesion on the upper lip and a serpiginous lesion that was most suggestive of lues. Two or three Wassermanns were made at the time and the reports were indeterminate or one plus. The patient was put on antisppecific treatment, and the results obtained were not what would have been expected from any straightforward specific lesion. After he had been through a course of antisppecific treatment, the lesion on the cheek began to grow, and the story he told was quite interesting. He wrote several times that he would have an unpleasant sensation along the border of the lesion, or a short distance away—itching, discomfort, or even pain. He had a little outfit consisting of a fine scalpel and forceps, and the characteristic little mirror which he still carried, and with these he would sit down and pick out of his skin a quantity of these little nodules that resembled the granules of actinomycosis. The speaker said that he saw several of these, and had a section removed from the edge of one or two of the nodules, and the report came back that they were composed of granulation tissue. The man kept on removing these little nodules and so apparently extending the ulceration or edge, until finally the edge became distinctly raised and indurated, and it became suspicious of epithelioma. The speaker said he had asked a colleague to see the patient with him in consultation—the ulceration having extended to a half inch in length and an inch in width—and this colleague agreed with the diagnosis of epithelioma and suggested that the patient have massive roentgen-ray treatment. That was the last he had seen of the patient until he returned two or three weeks ago with the story that he had been to see Dr. Fox, and then to some one, a roentgen-ray man, and had had some exposures, and finally had gone to Dr. MacKee who told him that he had a roentgen-ray burn.

That was the story of the case, so far as he had been able to learn it. At present, he felt suspicious of the underlying condition. The patient had not had syphilis, and it seemed probable that he may have had a superficial Paget's

epithelioma, although the present condition seemed to be a roentgen-ray ulceration.

DR. GEORGE H. FOX said that he saw the patient about a year ago and made a positive diagnosis of epithelioma. At the present time the condition seemed to be a typical roentgen-ray ulceration.

DR. SHERWELL expressed the opinion that the lesion was an epithelioma, and advised the application of a curette and acid nitrate of mercury thoroughly to the edges, more lightly to the center. Anodynes to the required extent would obviate pain. Of course general anesthesia would be required at the time of operation.

DR. HOWARD FOX agreed with what had been said by Dr. George H. Fox. They had seen the patient together about a year ago and agreed then on the diagnosis of epithelioma. The patient was being given roentgen-ray treatments by some physician and was apparently receiving a large amount of the ray.

DR. CLARK said he thought some consideration was due to this man. He had had this ulceration for some time, and now he had to face one to two years for healing. If he were asked for advice, he would recommend a complete excision of the entire area, followed by skin grafting. The patient had certainly had enough of roentgen-ray treatment to dissipate that type of epithelioma.

#### PURPURA ANNULARIS TELANGIECTOIDES. PRESENTED BY DR. HEIMANN.

The patient, W. W., was a man, 55 years of age, who had had the existing trouble for about eight months. He had not known of his condition until his wife pointed it out to him. Dr. MacKee saw the case with the speaker when it first came under observation. At that time the eruption was restricted to a few fading lesions on the thighs. Within a few weeks past he thought he noticed further activity in these patches, which resembled the brown patches that followed purpura. The condition was clinically and microscopically purpura annularis telangiectodes. There were active lesions near the elbow. The case was presented to illustrate the period of involution and as a supplement to Dr. MacKee's case.

#### DISCUSSION

DR. MACKEE said that some cases of purpura annularis telangiectoides were very mild and somewhat difficult to diagnose. Ordinary purpura might produce annular lesions, but the three distinct stages would be lacking. Vascular changes following varicose eczema might also simulate Majocchi's purpura, but here, too, the three stages should not be distinct and the eruption would not occur in definite outbreaks. Purpura annularis telangiectodes was not a true purpura; the hemorrhage was secondary to definite vascular changes. It might be due to a rupture of a vessel or to the destruction of a vessel by degeneration. The disease began as puncta produced by dilated, congested, and thrombosed capillary loops in the papillæ. Hemorrhage constitute the second stage; pigmentation and atrophy, the terminal stage. For these reasons and to remove the disease from the purpuric group, Majocchi had suggested the descriptive title of telangiectasis follicularis annulata.

DR. GEORGE H. FOX said that the condition seemed to be a vascular trouble and the purpura was secondary. He thought the term telangiectasia would be better than purpura telangiectoides.

DR. MACKEE thought that the term suggested by Dr. George H. Fox was the better term. Several other members agreed with the diagnosis.

DR. HOWARD FOX said that microscopically the disease was essentially a pan-arteritis.

LINEAR NEVUS OF THE NECK. PRESENTED BY DR. WISE FOR DR. FORDYCE.

The patient was a boy, 15 years of age, who presented on the neck, just over the larynx, a linear, verrucous lesion composed of numerous closely aggregated raised warts, forming a narrow band disposed vertically. The band was about 2.5 inches in length and a half inch broad, tapering at both ends.

ALOPECIA CICATRISATA (?). PRESENTED BY DR. WISE FOR DR. FORDYCE.

The patient was a man, 41 years of age, with atrophic, crusted and scarred lesions on the back of the head, which were of a year's duration. The condition presumably was one of alopecia cicatrisata. No Wassermann test had yet been made.\* The patient denied syphilis.

DISCUSSION

DR. MACKEE disagreed with the diagnosis. The lesion showed marked infiltration and deep ulceration and marked crusting in places. There were two or three fairly deep round, concave scars, having a diameter of at least one-eighth of an inch. He thought that the clinical signs indicated an ulcerating nodular syphilide.

DR. GEORGE H. FOX said that there was too much thickening of the skin for alopecia cicatrisata and that the condition was probably syphilitic.

DRS. CLARK AND WHITEHOUSE also thought the condition syphilitic.

EXTENSIVE TUBERCULOSIS CUTIS. PRESENTED BY DR. HOWARD FOX.

Previously presented before the Dermatological Section of the New York Academy of Medicine, Feb. 6, 1917.

DR. CLARK said that the scars of the skin were of the type that one would expect to see in syphilis; other appearances of the lesions and the grouping on the leg also spoke for syphilis, but on the other hand they were not asymmetrical. It was difficult to make the diagnosis between tuberculosis and syphilis.

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\* Further observation proved the lesions to be syphilitic in character.

## ERRATUM

In the September issue of THE JOURNAL, pages 567, 582, 590, 594 and 599, read before the "*Twenty-fourth*" Annual Meeting of the American Dermatological Association should have read: Read before the "*Forty-first*" Annual Meeting of the American Dermatological Association.



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## Original Communications

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### *SYMPOSIUM ON THE TEACHING OF SYPHILIS*

#### THE TEACHING OF SYPHILIS\*

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#### THE IMPORTANCE OF THE PROBLEM

The significance of syphilis to the individual, the family and the community is now so generally recognized and has been so emphasized during the past decade that this phase of the subject scarcely needs to be enlarged on. It is difficult to obtain accurate statistics of the prevalence of syphilis among the general population; it depends more or less on statistics furnished by the Army or Navy, or by investigations carried on in various penal or other state institutions.

At Auburn, Boudreau found that nearly 19 per cent. of the males and 34 per cent. of the females gave a positive Wassermann reaction. Seven and one half per cent. of all patients admitted were potential sufferers from paresis, or some other form of cerebrospinal syphilis. It has been further stated that 15 per cent. of insane in institutions in New York state have paresis; that there are about 3,000 cases in such institutions and that about 800 die each year from this disease.

In a recently published bulletin of our war department, Major Vedder estimates that among the recruits of the United States army 17 per cent. are syphilitic when they enter the service. He believed that about 20 per cent. of the young adult population from which the army is recruited are infected. Two to 5 per cent. of the commissioned personnel are already infected when they enter the service, which would give an average of 5 per cent. infections from the class from which they are recruited. Sixteen per cent. of white enlisted men in

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\* Received for publication June 25, 1917.

\* Read before the Section on Dermatology at the Sixty-Eighth Annual Session of the American Medical Association, New York, June, 1917.

the army are infected and 36 per cent. of colored enlisted men. Major Vedder further estimates that 13 per cent. of the insanity in the army is directly attributable to syphilis.

The frequency of death from syphilis is difficult to determine, as it is seldom given as a direct or contributing cause in death certificates. Many cases are reported as arteriosclerosis, apoplexy, or from other causes.

The application of the Wassermann reaction has shown that syphilis directly or indirectly is the cause of death in diseases in which its causation was formerly not known or only suspected. Lesser found that in 10 per cent. of all necropsies performed residuums of syphilitic disease were found. Syphilis is given by many authorities as the most frequent cause of death after tuberculosis. By others tuberculosis is not even excepted but syphilis is given first place. It is estimated that in large cities about 25 per cent. of individuals infected with syphilis die from some heart condition, and 3 to 4 per cent. from a syphilitic condition of the liver, kidneys, or other organs.

Dr. Symmers' report on 4,809 necropsies performed at Bellevue during the past ten years showed that in 6.5 per cent. effects definitely attributable to syphilis were present. It was found that in the majority of the cases, namely 55.7 per cent., the blood vessels bear the brunt of the affection, with disease of the liver in 37 per cent., and of the nervous system in 35.6 per cent.

Statistics of life insurance companies are of value. Blaschko found that of 8,000 policy holders one third died as the result of syphilis. His studies went back over a period of forty-five years and showed that the mortality among people infected with syphilis was 68 per cent. higher than among those who escaped infection. Furthermore, the mortality between the ages of 36 and 50 years was just twice as high among those who had had a syphilitic infection as among individuals of the same age free from such disease. The economic loss due to deaths from syphilis and the chronic invalidism resulting therefrom renders a systematic study of the disease of the highest importance.

The relation of syphilis to all branches of medicine is so intimate and for its mastery such highly technical knowledge is required that a new specialty is rapidly springing up to fill a legitimate need in our teaching schools. Whether this new department shall be controlled by the internist, the dermatologist, the genito-urinary surgeon or by an independent syphilographer are questions for the various schools to determine. The practical answer to the question is that syphilis should be taught by the one who has the necessary training to grasp the problem. The dermatologist is better trained to recognize the early manifestations and is apparently the one best fitted to develop syphilis as a well rounded specialty. To obtain the respect of his colleagues in

the other branches of medicine, however, he must attack the problem from many more angles than a dermatologic one and visualize the disease in its intimate relations to general medicine, surgery, neurology, ophthalmology and in fact to all of the branches of the healing art. When this is accomplished the possessor of such knowledge will be recognized as capable of teaching syphilis and not because he can differentiate the early syphilitic eruption from a dermatologic disease which it may simulate.

We require greatly enlarged facilities in our schools to educate students to comprehend the general pathology of syphilis, to diagnose and properly treat it, and to become teachers of future students. From an experience acquired in many years of teaching dermatology and syphilis, during the last five or six of which the question of syphilis has more directly interested me, I can, perhaps, formulate the requirements of a modern clinic and teaching department. We are primarily concerned in instructing students in the art of diagnosis and treatment. How can this best be accomplished?

First. By demonstrating a large group of cases in all stages of the disease and pointing out their characteristic features.

Second. By emphasizing the relative value of clinical observation as compared with laboratory methods and instructing students in the intimate details of how to employ and correlate both procedures.

Third. By developing and teaching a proper therapy in the various stages of the disease with indications and contraindications for the specific drugs and the by-effects of each.

#### DEPARTMENT OF SYPHILOLOGY

The department of syphilology in a teaching institution should be organized somewhat as follows:

1. *The Head of the Department and a Trained Staff.*—The head of the department of syphilis in a modern medical school should have the active support of a trained personnel which should include, beside the chief of clinic and numerous assistants, a serologist, a technician, a man trained in neurologic and ophthalmoscopic examinations, and an assistant trained in general medical diagnosis. The head of the department should have a thorough training as a clinician familiar with all phases of syphilis and dermatology. He should be fairly versed in neurology and know when to look for involvement of the central nervous system, to appreciate its significance, and to know how and when to properly treat this complication. Furthermore, he should know something about the use of the ophthalmoscope to inspect the deeper eye lesions, and should be able to grasp the symptoms caused by cardiovascular syphilis and the significance of hypertension. He must also



know sérology and be able to comprehend the immunity process set in operation by a general infection. A knowledge of the action and relative value of the specific drugs used in combating the infection should be acquired by careful and prolonged observation. The teachers must be well balanced and free from fads. We have too many half trained so-called teachers impressed with their superior knowledge who take pleasure in discrediting the exact and well recognized diagnostic and therapeutic methods. Their so-called knowledge is not the result of careful training over years, but based on a limited individual experience, second hand information and conflicting laboratory reports. The teacher is responsible to the students for conveying the correct methods of diagnosis and treatment so that their future patients may receive the care which is their due. How many well trained practitioners have we who conform to the requirements outlined and to whom we can conscientiously refer our patients? It is a matter of every-day experience to see the victims of syphilis under the care of supposedly well trained men suffering with headache, pupillary changes or obscure mental symptoms, all of which are wrongly interpreted as due to neurasthenia or worry over the infection; every cause except the correct one is invoked. In such cases lumbar puncture and an examination of the spinal fluid reveals the correct condition and properly directed treatment cures it.

2. *The Equipment of the Clinic.*—The clinic should have a well-equipped laboratory provided with a dark field microscope, a trained technician who understands its use, and one thoroughly familiar with the process of fixing, embedding, cutting and staining microscopic sections. There should also be a serologic laboratory either directly under the control of the clinic or in the department of bacteriology or pathology. The serologic work should be thoroughly standardized and carefully controlled by clinical observations so that a satisfactory technic may be developed and employed. It is only possible to make and interpret such reactions if the results are controlled by the clinician. The latter should know that the blood Wassermann may be negative in certain types of cerebrospinal syphilis and in forms of eye and blood vessel syphilis. He should furthermore know that the blood may be reinfected from time to time by the Wassermann producing substances in the spinal fluid and in the eye. An infection partially suppressed or confined to a limited region not in direct contact with the general blood stream may give a negative reaction. A serologic laboratory is, therefore, an absolute necessity for diagnosis, prognosis and for the control of treatment. The serologist should be capable of examining spinal fluids as well as blood and be familiar with the method of cell counting, the globulin reaction, and the colloidal gold test; a special research department for advanced workers should also



be maintained. A museum in connection with the clinic should also be developed which should include a large collection of histologic specimens as well as gross pathologic ones, the latter enabling the teachers to demonstrate to students the bone lesions of syphilis as well as the visceral lesions, including those of the central nervous system; brains showing gross lesions like gummas, aneurysms, hemorrhages and vessel changes can gradually be accumulated from the various hospitals where necropsy material is available. Models, drawings, photographs and lantern slides should also be at the disposition of the teachers in this department.

For conducting such a department an infirmary is necessary whether in connection with the dispensary or an accessible ward in a hospital where lumbar puncture and intraspinal therapy can be carried out. Special records should be kept of the treatment and serologic results, urine examinations, the heart, the eye, and neurologic findings.

Since syphilis in its inception is preeminently a dermatologic infection, it most frequently comes to the dermatologist for diagnosis. Dermatology and syphilis should be under one head; but when a large clinic is developed, conducted as separate departments, the cases first being seen in the branch devoted to skin and then referred to the division for syphilis, where they are treated and investigated by specially trained men as to involvement of the eye, ear, nervous system, heart or viscera. It is best to centralize as much as possible the treatment, as in this way it can be systematically carried out and without conflict. The various departments should, however, cooperate so that patients can be referred for special eye, heart, or neurologic examination if such specialists are not directly connected with the department of syphilis.

3. *The Necessity of a Follow-Up System in Connection with a Syphilis Clinic.*—The large number of cases of syphilis of the nervous system, the cardiovascular system, the viscera, etc., attest to the fact that the disease has been inadequately treated in the early stage. Full instructions should be given patients as to the possibilities if the treatment is neglected and delinquents visited by a social worker. The difficulty is that a large percentage of patients give fictitious addresses and it is impossible to locate them. At the Vanderbilt Clinic patients with syphilis are first seen in the skin department and then transferred to the syphilis side, where blood for Wassermanns is taken and various clinical investigations are carried out. Patients with demonstrable manifestations or a positive Wassermann reaction are treated on the day of the first visit with mercury, or if contagious lesions are present, with salvarsan; others await the result of various examinations. Every patient receives an ophthalmoscopic examination, a heart examination,

urinalysis, neurologic examination and before, during or after treatment, a lumbar puncture. Treatment is carried out systematically in courses — salvarsan and mercury at weekly or shorter intervals with mixed treatment or iodid of potassium, as indicated, and is controlled by the Wassermann reaction. The patient is discharged as cured if his Wassermann is negative for a year and remains so after a provocative injection of salvarsan, and his spinal fluid is negative. Where involvement of the central nervous system is present intraspinal medication is administered.

#### SYPHILIS CLINIC

An ideal syphilis clinic should be a center of instruction for the undergraduate and the postgraduate student where accurate knowledge may be acquired and disseminated. An endeavor is made to give to the student a comprehensive clinical and pathologic picture of the disease by the demonstration of cases, models, photographs, lantern slides and from the histologic and gross pathologic material, aided by the special laboratory methods which are available. At the present time the teaching of syphilis in the College of Physicians and Surgeons is under the department of dermatology, and as the time assigned to these specialties is limited it is difficult or impossible to cover the subject of syphilis as thoroughly as is desirable. The following is a brief outline of the method of teaching which is at present employed:

The subject is introduced by a short history of the disease and by a discussion of the contributions of leading investigators who have developed our modern knowledge of it. The far-reaching importance of the disease to the individual, the family and to the state is emphasized. The methods by which the infection is conveyed and the illogical attitude of the community regarding the disease is discussed and an endeavor made to educate the profession and the public as to the necessity for better facilities in our hospitals and dispensaries for its treatment. A sketch of the general pathology and the result which may follow in unrecognized or inadequately treated cases is dwelt on and an endeavor made by lectures, demonstration of cases, models, photographs and lantern slides to impress the student with the clinical manifestations of the genital and extragenital sores. Methods of detecting the invading organism in the early lesions by the dark field microscope and staining methods are shown and the imperative importance of early diagnosis and treatment insisted on. If the teacher of syphilis has at his command a sufficiently large dermatologic clinic he is in a position to illustrate the differential diagnosis of syphilitic rashes and those which resemble it in the early as well as in the late stages of the infection. One cannot become an expert diagnostician of early skin syphilis without becoming familiar with drug rashes, pityriasis

rosea, lichen planus, the tuberculids and many generalized eruptions which simulate it. A knowledge of the skin and subcutaneous manifestations of tuberculosis, blastomycosis, sporotrichosis as well as all malignant growths is essential to the diagnostician of late external syphilis. After several lectures covering the initial lesion and the early and late skin manifestations the significance of a positive Wassermann reaction in the latent period of the disease is dwelt on and its relations to the involvement of the central nervous system, cardiovascular system and the visceral manifestations of the infection. Without infringing on the department of neurology the question of syphilis of the central nervous system is discussed at some length and the various special diagnostic methods are described and illustrated.

The relation of nervous system involvement in early syphilis to the subsequent development of tabes, paresis and other forms of cerebro-spinal syphilis is frequently emphasized so that the student may always have in mind when treating an early case of syphilis the possibility of invasion of the spinal fluid. He must know just what this invasion signifies and receive proper instruction as to the most efficient means of combating it. Involvement of the central nervous system which is overlooked by the physician and later is followed by tabes or paresis is not creditable to our profession; neither is an optic atrophy from an early optic neuritis or basilar meningitis which might have been recognized and cured. The same reasoning applies to aneurysms which might have been foreseen if an aortitis had been suspected. We cannot progress in our therapeutic endeavors if we look to the neurologists to develop a method of cure after harm has been done in the central nervous system; or to the ophthalmologist to devise a cure of optic atrophy when blindness is impending; neither to the internist to show us how to cure aneurysm which is revealed by gross physical signs. Progress cannot be accomplished by any of these practitioners by deriding or belittling the results accomplished by syphilographers who see the early beginnings of the serious affections enumerated; neither can progress be made by jealousies or disputes as to whom syphilis belongs in its various stages or to whose department these various patients should be referred. Pathologic changes are the same in all stages of syphilis and the man who masters the subject from the initial lesion to paresis will obtain the confidence of the patient and render him the service to which he is entitled.

A syphilographer can obtain valuable aid in diagnosis from the neurologist, the ophthalmologist, the laryngologist or the internist, and all of these departments in a medical school should cooperate. The victim of syphilis, however, will fare much better if he is treated in a central department where the therapeutic methods are uniform and as far as possible standardized.



*Syphilis and Marriage.*—The student is instructed in the question of syphilis and marriage and the rules formulated as far as possible which should guide the practitioner in deciding when an individual infected with syphilis should marry. The student is told that early efficient treatment followed by a negative Wassermann reaction which remains so for at least a year, which in other words conforms to the criteria established for the cure of syphilis, is a safer rule to follow than the old one of awaiting an attenuation of the virus three to five years after infection. During the past few years in which intensive treatment has been employed and controlled by our exact laboratory methods patients have married eighteen months after infection and have borne children free from any clinical or serologic evidence of the disease. On the contrary, under the old rules regulating marriage in syphilitics, congenital syphilis has been seen in the offspring of individuals who married eight or ten years after infection where the Wassermann reaction in the father or mother was positive. It would seem necessary, therefore, to completely revise our rules as to the question of marriage in syphilitic individuals.

In my own clinic we see, perhaps, fewer cases of congenital syphilis in infants and young children than other cases of the disease. The student, however, is presumably thoroughly instructed in the clinical phases of congenital syphilis in the department of pediatrics, but we endeavor to demonstrate such cases when the opportunity offers. One or two lectures are devoted to a consideration of the clinical and pathologic manifestations of congenital syphilis and also the proper methods of treating women infected with syphilis during pregnancy. After the student has been given as far as practicable a comprehensive clinical and pathologic picture of the disease with the general diagnostic methods employed, he is instructed in the exact use of the therapeutic agents. We have at the Vanderbilt Clinic a department for the administration of mercury and salvarsan and the student has ample opportunity to observe the methods in which these agents are given, the by-effects which follow each and the clinical and serologic results obtained from their administration.

A clinic for the treatment and teaching of syphilis based on the lines indicated, should have sufficient endowment to enable it to carry out its plans and at the same time to investigate problems which present themselves from time to time. The nature of the disease and the views of the public regarding its methods of transmission have heretofore seriously handicapped such clinics in obtaining contributions from philanthropic individuals. The enlightenment of the public leading to broader and more liberal views will doubtless enable us to establish on a firmer foundation teaching and research departments in the medical colleges throughout the country which will be centers of



instruction for practitioners as well as students. The development of the department of dermatology and syphilology at the College of Physicians and Surgeons was rendered possible through the cooperation of the University in furnishing us with enlarged clinical space at the Vanderbilt Clinic, by the generous contributions of the late Dr. McMurtry, and by several large donations from patients and personal friends of the head of the department.

The work of the department as shown in the various annual reports could not have been carried out, however, had it not been for the efficient organizing ability of the chief of clinic, Dr. MacKee, aided by the cordial help of all of the members of the staff, who have made many personal sacrifices of their time and money to insure the success of the department.

In the annual report of the clinic from May, 1916, to May, 1917, the new patients numbered 2,895, of whom 991, or 34 per cent., were treated for syphilis. There were seen 55 cases of initial lesion without secondary manifestations; 39 with secondaries developed; 138 cases of secondary syphilis; 613 cases of latent and tertiary syphilis; 66 cases of syphilis of the central nervous system and 80 cases of congenital syphilis; 1,893 Wassermann examinations were made; 3,229 intravenous injections of salvarsan were administered; 6,706 intramuscular injections of mercury and 245 intraspinal treatments were given. In addition, there were 224 lumbar punctures for diagnosis. The demands on our facilities are now so great with the increasing number of syphilitic patients who require long-continued treatment that we must either acquire additional space or seriously curtail our work.

## TEACHING OF SYPHILIS IN SCHOOL AND HOSPITAL \*

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BOSTON

Medical teaching consists in disseminating our accumulated knowledge in the broadest and most effective manner.

One by one the problems of etiology and treatment are being solved. Diseases whose cause was unknown, and treatment therefore largely empiric, are being placed on a definite scientific basis. In no field of medicine have more brilliant and beneficial results been accomplished during the past fifteen years than in our definite knowledge of syphilis. The successful inoculation of an ape, the discovery of the *Spirochaeta pallida*, the application of the complement fixation and the invention of salvarsan — these discoveries led to others. We no longer think of tabes and paresis as parasyphilitic or metasyphilitic manifestations, but as an active syphilis of the central nervous system since Noguchi demonstrated *Spirochaeta pallida* in the cerebral cortex. Aortitis, aneurysm and symmetrical synovitis of the knees usually mean an antecedent syphilis.

These changes in our definite knowledge of the disease have come too rapidly to be easily taken up by some of the older graduates who are not in touch with medical centers, and who tell us that they "see no syphilis" in their medical work. Therefore, this teaching must not be confined to undergraduates; postgraduate instruction should be encouraged in every way, also the use of extension courses. Lectures and clinics on syphilis should be given in various cities under the auspices of a medical school, the course to include all that is new and practical in diagnosis and treatment. The importance of looking for *Spirochaeta pallida* in all suspicious lesions, either with a dark field illuminator or by the use of stained smears, must constantly be taught.

It is hard to impress medical men who were trained to wait for secondary symptoms before making a positive diagnosis of syphilis with the fact that such a course is no longer necessary, whereas the immense advantage to the patient and the community of intensive treatment of primary syphilis is commonly accepted.

The public should be deeply interested in the early cases, for they each represent a focus of possible infection. Late lesions may threaten or claim the life of the victim, but the health and happiness of others is not endangered.

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For a few hundred years the knowledge of syphilis was based on accumulated observations of clinicians, and the teaching was done as a part of general medicine. With the development of specialists, both genito-urinary surgeons and dermatologists claimed the care and teaching of syphilis as a natural part of their work. That both failed fully to appreciate their opportunities and responsibilities, is shown in various ways.

As early as 1911 a committee was appointed by this Association to work for better and more uniform teaching of syphilis in our medical schools. There is a prejudice on the part of certain medical men against establishing a special department for teaching syphilis, fearing a similar request in regard to other diseases.

In many departments, methods of the past have required a change to meet new conditions; and no one desires to return to inadequate treatment of syphilis based on a clinical diagnosis. We have better methods now and they should be used. Formerly it was the best that could be done.

Syphilis, however, is more than a genito-urinary or a dermatologic manifestation, and should be treated and taught in a department of its own. Fournier said, long ago, that the care of a case of syphilis belonged to one man; but that in the case conditions might arise in which the assistance of any of the other specialists should be sought temporarily. The same is true of its teaching. It is granted that one man has neither the time nor the ability to teach all the manifestations of the disease; but he can arrange and supervise the teaching, making it more complete and comprehensive and giving it a proper value in relation to other branches of medicine and surgery. This can be accomplished best through coordination and cooperation with other teachers and departments.

It has been said that to know syphilis is to know medicine, as every organ and tissue of the body may be invaded at some time during the course of the disease. Therefore the syphilologist must be specially trained, not only in syphilis, but in the dermatoses and exanthems; he must also be familiar with bone and visceral changes, as shown by the Roentgen ray. If not a serologist, he must be able to interpret the findings of others, and to give them a proper value in conjunction with the signs, symptoms and history of the disease.

In the bony framework close resemblances exist between syphilis, rickets and osteomyelitis. Syphilis not only imitates other diseases, but sometimes simulates itself; for instance, the striking likeness of an early gumma and a primary lesion of the lip or genitals.

When I was a student Harvard required no work in syphilis. A certain number of didactic and clinical lectures were given, attendance at which was entirely voluntary. Later, six section exercises of an hour and a half each were added, and an examination was required.



At the present time instruction is given by the department of syphilology, and consists of clinical and didactic lectures given in the third year. In addition, students in sections attend twelve three-hour exercises in the department for syphilis at the Massachusetts General Hospital. Here the men see all the instructive material of the clinic, and are assigned cases to work up. They take the history, make a physical examination and a dark field if necessary, take blood for a Wassermann and demonstrate the patient before the instructor and the men of the section. Students have an opportunity to assist with salvarsan administration. Ward patients also are used in teaching.

Arrangements have been made for lectures or short talks on syphilis of the eye, ear, etc., to be given by the respective departments early in the course. It is hoped that arrangements may be made soon to give the second class some clinical lectures.

Fourth year syphilis consists of quarter course electives, and two three-hour exercises are given, at one of which men not necessarily connected with the school speak on the problems that syphilis presents to them in their work. For instance, a medical director of a life insurance company speaks on syphilis and life insurance; the medical examiner (coroner's physician) on syphilis and sudden death; a member of the industrial accident board on syphilis and workmen's compensation. The other exercise is given at the hospital, and men from various departments speak on syphilis as they see it in their special fields of medicine.

The students receive a certain amount of instruction on social questions from our social worker, in the form of short talks to the class; and during their section work they are shown how various family problems are solved.

There are many social questions in which the state is interested, as congenital or acquired syphilis in the state minor wards and the girls' parole department. Especially the commission for the blind is interested in cases of interstitial keratitis. Syphilis often complicates the placing out of children by the state or by private agencies.

All this properly belongs in the teaching of syphilis, but has no relation whatever with genito-urinary surgery or dermatology, and little with general medicine. However, the syphilologist is interested in all these questions.

Much has recently been written of the economic waste caused by syphilis. In an excellent paper read before this Association a year ago, Dr. Irvine<sup>1</sup> quoted the estimated number of syphilitics in this country to be from ten to twenty millions. He also gave interesting

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1. Irvine, H. G.: Notes on the Teaching and Treatment of Syphilis, *Jour. Am. Med. Assn.*, Dec. 30, 1916, p. 1987.



figures showing the amount of time lost from work, and the expense of this burden to the state. The actual economic loss can never be computed, for many patients are not kept in hospitals, and much is spent by private individuals in the care of dependent syphilitics. The figures that Dr. Irvine gathered from various sources show that, in many hospitals, patients with syphilis make but few visits, a large majority making only five, and many only one or two. Such inadequate treatment is of little value to the patient and no satisfaction to the physician. To overcome this, an effective follow-up system is essential; but if care is taken to show the patient at his first visit that his physical and social needs will receive prompt and energetic treatment, tempered with a human interest, the need for follow-up work with that patient is reduced to a minimum.

For the year 1916 our loss among new patients has remained the same as for the previous year, that is, 9.5 per cent. in those admitted to us directly. Our clinic has tripled in the number of clinical visits during the three years of its existence, but not in the admissions, although there has been a steady gain. During 1916 there were 1,428 new patients admitted. Of these, less than 4 per cent. required "follow-up" work. With cases transferred to us from other departments, it was necessary in 6 per cent. Only 2 per cent. of our patients stopped treatment before receiving two months of mercury following their salvarsan. This does not include the cases whose subsequent treatment is arranged for elsewhere (New York, Chicago, Philadelphia, etc.).

To ascertain our knowledge of cases a year old or more, figures for April, 1916, were reviewed. In that month there were 108 new patients admitted, and the present status of all of these is known to our department. There were 603 old patients treated in that month, 35 per cent. of whom came as new patients at least six months before that.

Here, we believe, is proof of the power of the personal touch. There is hardly a patient in the department who cannot be called by name by some member of the staff.

We hold the patient responsible for bringing under treatment, whenever possible, the donor or recipients.

Teaching syphilis in a separate department has been criticized on the ground that students see only syphilis, and have none of the dermatoses alongside for comparison. This is true only to a certain extent, for cases of pityriasis rosea, lichen planus, psoriasis, scabies, etc., cannot fail to be admitted to the syphilis department occasionally; but the establishment of reciprocal relations between the skin and syphilis departments is the foundation on which the ideal teaching structure can be raised. We notify each other whenever typical or

unusual cases present themselves, and borrow and lend cases for clinical lectures. The same is true of other departments to a slightly less extent.

Dermatology and syphilis occupy adjoining quarters at the hospital, and during the coming year blocks of students will be sent to the two departments. In this way students will get their clinical instruction in both branches at the same time.

The teaching of syphilis should include an interest in all the activities in the subject that are being carried out in all departments, from the prenatal clinic to the necropsy laboratory.

A Wassermann test is taken on all applicants at the Boston Lying-In Hospital, and cases showing a positive result are sent to our clinic, whenever possible, for observation and treatment. This enables us to see many of the babies, and, when necessary, treatment can be given without delay.

Cases of syphilitic eye conditions are sent to us from the Eye and Ear Infirmary for constitutional treatment. This arrangement affords abundant opportunity to study syphilis of the eye, both acquired and congenital, and illustrates well the cooperation already mentioned. To the ophthalmologist these cases are interesting as a local condition, but to the syphilographer they are syphilitics, and often show other manifestations or stigmata of the disease, as hutchinsonian teeth, symmetrical synovitis of the knees, periosteal thickenings, changes in the lung or pleura, etc. Such cases require medical supervision for years, and the syphilographer is the natural one to assume this responsibility and should be best qualified to teach these conditions. Local manifestations may come and go, but there is no ending to the syphilographer's interest in these unfortunates.

A department of syphilology must have beds in the ward, where cases not suited for an ambulatorium may be studied and treated. There is an opportunity for a certain number of students to act as hospital interns and receive advance training. They do lumbar punctures and study the spinal fluid, renal functions, etc.

Cases of visceral syphilis — heart, lungs, liver, etc. — may be cared for, as the department of syphilology must have a skilled internist on its staff.

Laboratory facilities for studying biopsies and carrying out research work must be provided.

There must be in the department microscopic sections of primary lesions and the syphilids; also photomicrographs of the histopathology, as well as photographs showing the gross pathologic lesions. These must be available constantly for reference.

Syphilis should be taught and treated in a department of its own, this department to be equipped with a laboratory, dark field and

arrangements for serologic examinations. There must be plenty of assistants under the direction of a trained syphilologist, the staff and affiliations to include internists, pediatrician, eye, ear, throat and other specialists.

Financial arrangements must be made, thereby insuring emergency salvarsan, where needed, and beds for infectious cases must be available.

A social service worker in the clinic and an effective "follow-up" system are indispensable.

With such equipment, it should be possible for the medical school to graduate men amply qualified to wage an effective, systematic warfare on syphilis in the community.

## THE TEACHING OF SYPHILIS IN UNDERGRADUATE SCHOOLS \*

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Until twenty years ago, barring a certain good natured recognition of the fact that syphilis could cause arteriosclerosis, and was responsible for the so-called parasyphilitic and metasymphilitic disturbances, the disease itself, in its larger aspects, was neglected, except by very few. Since its earlier manifestations were chiefly cutaneous, and its later ones largely so, the malady was conceded to the province of dermatology. The urologists alone challenged this, and purely because the primary lesion so often occurred on the genitalia. Female primary syphilis stayed unclaimed because the gynecologist, unlike the urologist, felt no particular proprietary rights in the condition; and the result was that syphilis in women was even more neglected than in men.

Urology, however, was once closer to dermatology than it is today, for today urology has become a surgical and dermatology has remained a medical specialty. Thus, the only possible reason for the urologist still to regard syphilis as within his field is because of an accident of localization. Erysipelas of the scrotum or lichen planus of the penis might just as reasonably be regarded as genito-urinary diseases. In recent years syphilis has become one of the few human afflictions about which definite knowledge exists, and for which something definite can be done. Thus the disease is no longer one of the waifs of medicine, and no specialty now exists that does not claim chief guardianship. In the meantime, however, the dermatologists, because of their almost undisputed study of the subject, have become the world's great syphilographers, as can be illustrated by the names of Fournier, Finger, Neisser, Hoffmann and Herxheimer. In the special field of laboratory work there have been equally great if not greater contributions to the study of syphilis, but from the standpoint of the subject clinically it may be reiterated that it has been practically only the dermatologists who have become great syphilographers.

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Unfortunately, in the past, the lines of cleavage in specialties have formed themselves largely with reference to practical considerations. When syphilis was counted a cutaneous illness for which pills were prescribed or inunctions given by an orderly, it was not considered interesting. Now that it is better understood, it has acquired wider fascination. The surgeon considers it surgical because inserting a needle into a vein may be apotheosized into an operation. The neurologist considers it neurologic because a given proportion of syphilitics develop tabes, paresis, or meningitis. The urologist clings to his earlier attitude with renewed ardor because the portal of entry of the disease happens to be on the penis. The laryngologist might equally consider it a throat disease because now and then a chancre occurs on the tonsil. This confusion is reflected in our medical schools. The departments of dermatology, urology, neurology and general medicine all claim syphilis. The question has become a matter of medical school politics, to put it frankly, and in the meantime two groups of people suffer — the students who are entitled to be taught syphilis properly, and the syphilitics who are entitled to have properly trained physicians at their disposal. In the last analysis, however, it is the community that is sacrificed while this petty struggle is being waged, and every individual who obstructs the efficient teaching of medicine in any of its branches is in spirit violating the hippocratic oath.

Syphilis should be taught by one whose natural and acquired endowments are such as to render him the best man available for the task. He must have at his disposal an adequate staff of assistants, technicians and nurses, and properly conducted clinics, wards and laboratories. Sufficient time must be allotted to this subject by the medical school so that the student may be able to cover everything of importance pertaining to syphilis. This does not imply that, in order to win his degree, the student must be an accomplished syphilographer, but the community may expect of him an intelligent grasp of the disease and a wholesome insight into his own limitations.

#### THE PERSONNEL OF THE TEACHING DEPARTMENT

The teaching staff should consist of a chief, a man second in responsibility, and a group of assistants. The head would be the professor, and he should be a member of the faculty. The title of the second man is less important than that he possess capability for his work. His appointment should be made with as much care and discrimination as that of the professor. Professorial qualifications obviously should be high, the first requisite being general culture, an understanding of biology, and at least a reading knowledge of German and French. The qualifications for entrance to medical schools as students have recently reached a high level. No lower standards should be

tolerated in the teaching staff. Without wishing to read too much cultural significance into the baccalaureate degree, it at least represents a minimum of work done, lacking which an individual is considered unprepared to pursue an intellectual career. This necessary minimum, whether self-acquired or not, and whether ornamented with a college degree or not, should be expected in professors or potential professors.

A professor in a medical school should himself have been graduated from an exacting institution, and have served as intern in a hospital of recognized standing. He should have more than a crude conception of internal medicine, gross and microscopic pathology, bacteriology and serology. This holds true in all specialties, but above all in syphilology, which plays so gigantic a rôle in internal medicine. Special professional training in syphilis includes a mastery of dermatology, without which one cannot know the cutaneous specific manifestations, and a thorough understanding of the internal, central nerve, special nerve and general clinical aspects of the disease. This is imperative, but it does not mean that the professor of syphilis should be a master in all of these departments, an obvious impossibility. He must, however, be more than a tyro. Should this be beyond his scope the faculty that gives him his chair is more deeply implicated in the wrong than is their appointee.

Above all, the professor should be able to teach. Otherwise, he merely adorns a rostrum at regular intervals and tires his pupils with bad pedagogy. Thus, they allow their thoughts to dwell on a signal that will end their temporary bondage. It is possible to be a great syphilographer and a poor teacher, and such an individual is not of professorial caliber. There are many indications that medical schools are beginning to realize this, and they should demand that the occupant of a professorial chair love teaching and know how to teach. What has been said of the head of the department applies equally to his first lieutenant, whose academic inferiority to his chief should be only such as can be explained by relative youth and inexperience. The fundamental qualification of general, general medical and special training should be identical in both. This is undebatable. The second in the department may at any time be called on to substitute for or replace the head, and must approximate the latter's standards.

Lower instructors, demonstrators and assistants, their number being determined by the size of the department, should be well grounded in their subject in its general and special aspects. Less is to be demanded of this element of the teaching staff because they are beginners, but such work as is assigned to them should be accomplished in an excellent manner, and if it is not they should be dismissed. The teachers in medical schools render a public service, and those who are inefficient,

or who place their teaching second to any of their other activities, should not be tolerated.

#### ORGANIZATION OF THE DEPARTMENT OF SYPHILOLOGY: ITS SCOPE AND PEDAGOGIC METHODS

For reasons that will be discussed below, syphilis in its main aspects should be taught in the department of dermatology, which should control an outpatient clinic and have access to hospital wards. In addition, there should be such laboratories and rooms as are needed for the examination of smears, tissue, the performance of serological tests, and the administration of salvarsan. There should be waiting, dressing, examining and recovery rooms in which the patients may be ministered to with just as rigorous human consideration as scientific excellence. The students, under the supervision of instructors, should partake in the active work of the clinic, not so much with the idea of becoming experts as with that of seeing at close range and for future reference what is proper and necessary in the care of syphilitics.

A sufficient number of beds should be at the disposal of the department to care for patients who need the kind of attention, study, or treatment that cannot be supplied in the dispensary. These beds are for cases requiring careful analysis, for those which need the diagnostic or therapeutic lumbar puncture, for patients who suffer reactions after salvarsan, for cases of malignant syphilis, and for the detention of patients with marked lesions and disturbances, so that the process of involution after treatment may be observed by the student.

Both the clinics and wards should be conducted in such a manner that cooperation exists with other departments, especially the departments for diseases of the nerves, eye, ear, rhinolaryngology, internal medicine, pathology and bacteriology. This is essential in order that questions of diagnosis in these fields may be adequately considered. Every case of syphilis, particularly with reference to didactic as well as clinical needs, should be thoroughly studied in all its relations, and this is possible only when there is harmony among the departments and a desire among their heads to procure the best pedagogic result. Starting with this personnel, equipment and clinical material, the problem of working out an efficient scheme of teaching, though complex, should not be hard to accomplish. The object of all instruction should be to give the pupil a comprehensive understanding of the disease and a practical knowledge of it that will enable him either to treat patients properly, or to refer them to colleagues who may do so. Thus, it is necessary to cover the clinical and laboratory aspects of the malady from the primary lesion to the central nervous and visceral manifestations broadly, while other departments take up their special part of the instruction in greater detail.



The earlier signs of syphilis and many of the later ones are most marked on the skin and visible mucous membranes. Early in the course of the disease, however, all sorts of systemic disturbances occur. The latter, subject to the strain of the infecting organism and the peculiarities of the host, determine the peculiarities of the course of the disease in its systemic aspects. Thus, syphilis enters all fields of medicine. So far as the welfare of the patient is concerned, the most important period of the disease is the earliest one, when most can be accomplished by therapy. It is the syphilographer who, in nearly all modern hospitals, clinics and teaching institutions, treats all of the cases in a central department. In order to recognize and understand early syphilis he must be a dermatologist. This implies a great deal more than imagining that a rash in a patient with a positive Wassermann reaction is a syphiloderm, and that one with a negative Wassermann reaction is not.

The student must be taught the cutaneous manifestations of the disease by a department head who knows them and can differentiate them from all other similar dermatoses. It is not enough, though, for the teacher to know only the cutaneous details. He must also have a clear understanding of the nervous, ocular, auditory, internal, medical, surgical, pediatric, serologic and pathologic phases of the disease. Since he cannot excel in all of the specialties here included, a definite method of presenting the subject consistently and completely must be agreed on between the department of syphilology and all other departments.

It is my feeling that in view of the importance of the subject it should be begun in the third year and continued through the fourth year of medical training. In the third year the disease should be approached from three points of view, the clinical, the serologic and the pathologic. The clinical teaching is again to be subdivided into didactic lectures, case demonstrations and applied therapy. The lectures should cover the cutaneous aspects of the illness, the general biology of the spirochete and host, the broad principles of the systemic phases of the disease, congenital syphilis, the significance and the interpretation of the Wassermann and cerebrospinal fluid tests, and finally the question of therapy. The last should embrace a thorough exposition of the drugs used, their indications, contraindications, physiologic and therapeutic behavior, and toxicity, including the Herxheimer phenomenon and nitritoid reactions in salvarsan administration. The range of efficiency and limitations of the medicaments, the therapeutic results, and questions of prognosis should be duly emphasized. Lectures should be given interestingly, vividly, and with suitable illustrations by means of the stereopticon, tables, charts and patients.

The instructors should give an adequate number of clinics and demonstrations to small sections of the class showing the actual cases of



syphilis. In these clinics the diagnosis of the chancre, the early and late syphiloderms, and all nonsyphilitic dermatoses should be exhibited, so that points in differential diagnosis may be thoroughly presented. In other words, the fulcrum of dermatologic instruction should be syphilis, since syphilis is the most serious disease among those whose conspicuous phenomena are cutaneous. The students should have to administer a certain number of salvarsan and mercury injections in order to master the technic. They should also make dark field examinations and watch a stipulated number of cases clinically and therapeutically.

#### RELATION OF THE DEPARTMENT OF SYPHILOLOGY TO OTHER DEPARTMENTS

The head of the department of syphilography, together with the heads of the departments of internal medicine, neurology, ophthalmology, otology, pediatrics, surgery, bacteriology and pathology, should arrange a curriculum in which, after the general questions of syphilis have been discussed, its special features are taken up consistently and consecutively. Each of the departments should outline those manifestations and phenomena of the disease within its province. Obviously, diagnostic and differential diagnostic considerations merit most emphasis. The division of teaching should be based not at all on the aggrandizement of the individual department, and entirely with reference to the utmost pedagogic efficiency for the sake of the pupil and hence for the welfare of the community.

Both lectures and clinics in these departments are necessary. The pathologic studies should consist of demonstrations of gross and microscopic material. The serologic work should consist of a knowledge of the principles and technic of the Wassermann and luetin tests, instruction in their practical application remaining an affair of the department of syphilology. The fields to be covered in the other departments are perfectly clear, but it is to be especially emphasized that the surgeons and orthopedists include Roentgen-ray diagnosis of bone syphilis, and the pediatricians go deeply into the question of congenital syphilis. Here it may be urged that no instructor be allowed to express an opinion on congenital syphilis unless he has qualified sufficiently as an embryologist to know the difference between the words "congenital" and "hereditary," so that the last adjective, absurd in its present usage in connection with syphilis, may be abolished.

Necessarily, a curriculum of this sort requires time. The third and fourth years of the course should be devoted to it. During the third year a weekly lecture should be given by the head of the department, the pathologic department at the same time taking up the subject in the course in general pathology, while a cutaneous pathologist gives

a brief course in the special microscopic anatomy of the syphilides, either in connection with the department of general pathology or syphilology. During this year, too, the department of general medicine should cover its portion of the scheme. In the fourth year the practical clinics, as above outlined, are to be held. Every pupil should attend from thirty-six to forty clinics, or at the rate of one a week. The arrangement of these would depend on the size of the entire class, but no section should exceed ten members. The number of sections would vary with the size of the class and a suitable number of instructors would be needed. In addition to this, the special phases of the disease should be taken up by the special departments as outlined above.

Without harmony of point of view among the department heads as to how the teaching is to be conducted, the whole course will necessarily be a failure and a source of confusion to the student. By this is meant that one department may not express a preference for one sort of treatment or point of view, and another for another. All the heads must agree to teach along one definite line. This applies particularly to therapy. If no such agreement can be reached the treatment would perhaps better be left entirely to the department of syphilology, and not be touched on by the others at all. The same applies to the Wassermann test. There is an institution in New York in which the departments of dermatology and clinical pathology are convinced of the value of this test, the departments of urology and general pathology dissenting. The professor of pathology, who incidentally has nothing at all to do with the subject, gratuitously teaches that the Wassermann test is useless. This has caused great confusion in the nondiscriminating student mind, for the pupils do not realize that this professor of general pathology has not seen twenty cases of clinical syphilis in his life and thus is not entitled to express an opinion on the subject. Such a state of affairs ought to be forbidden by faculty legislation, but some medical schools are still loosely strung bodies, and often every one's welfare is considered except that of the student and his future patients. A similar clash is possible in case the syphilographer and neurologist disagree on questions of therapy in tabes, paresis, etc. Whatever the individual points of view held by department heads, all questions of treatment should be discussed dispassionately, for intraspinal therapy, in spite of its inherent limitations, is neither wholly bad any more than it is wholly good. The student should understand these facts and realize the advantages and disadvantages of the treatment, but he should not be forced to leave his college remembering that Dr. A advocated one type of therapy, and Dr. B another, and that each gentleman respectfully but firmly called the other a fool or charlatan, and the adversely critized method quackery.

DEPARTMENT OF SYPHILIS AND SKIN DISEASES A MAJOR BRANCH  
OF MEDICINE

It is strange, perhaps, to lay such stress on a single disease. One might hold that if there is a special chair for syphilis, there should also be one for tuberculosis. Perhaps there should be, and for cancer also, since cancer, tuberculosis and syphilis represent society's greatest health problems. There are probably between 10,000,000 and 20,000,000 syphilitics in the United States. Every one is acquainted with the potentialities of the disease. Assuming that only 1 per cent. of those afflicted develop tabes or paresis, there will be 150,000 people in our country with preventable central nervous maladies. These figures are probably two or three times too low. Nearly every case of aortic insufficiency and aortic aneurysm is of specific origin. Who can estimate the number so afflicted? Who has any definite conception of the number of cases of arteriosclerosis, angina pectoris, chronic nephritis, or hepatic cirrhosis due to syphilis? It is no exaggeration to state that there are probably 2,000,000, or one fiftieth of our entire population. How many miscarriages are caused by maternal syphilis, and how many congenital syphilitics are born every year? Let us assume that there are only 200,000. In a century this means 20,000,000. We know that Oriental populations double in a century, while Occidental ones scarcely increase by half this figure; and yet we regard with no concern the sacrifice of two fifths of our procreative ability. Millions of dollars are annually devoted to the study of cancer, a disease of relative old age. We spend nothing on the study and teaching of syphilis, a disease that preys on vigorous youth and strikes at man in his prime, impairing his efficiency and leading to consequences inestimably more serious than those of cancer. It is a social crime for medical schools to ignore this disease as they have been doing. Does it not merit especial attention so that its rising flood may be stemmed? And how better can it be stemmed than by adequately teaching those whose duty it will be to treat it? We all know perfectly that there is but one right time to begin treatment, and that is as nearly as possible to the moment that the initial infection is recognized. But how many members of a medical faculty, outside of the syphilographer, realize this? And how many graduates enter on their professional career knowing this and the biologic principles underlying the fact?

## SYPHILIS BELONGS IN THE DEPARTMENT OF DERMATOLOGY

The department in which this instruction can best be conducted is still a matter of dispute in medical schools. Several possibilities exist. It may be taught in a subordinate branch of the department of general medicine, in the department of genito-urinary diseases, in the department of dermatology, or in a special department of syphilology. Let



us examine each method. Are there many internists who, with the vast number of conditions they see, are capable of mastering a single disease the manifestations of which are protean, and the cutaneous forms of which they would be able to differentiate from other dermatoses? In other words, may we expect the professor of internal medicine also to be an expert dermatologist? For a reply we need only call the roll of professors of internal medicine. Not a single one will say *adsum*. Urology today is a branch of surgery, but sincere urologists will lay no claim to the mastery of syphilis simply because the major proportion of primary lesions are penile. Are chancres of the tonsil, tongue and lips genito-urinary conditions too? How many men whose greater interest is focused on the cystoscope, the tuberculous kidney and the enlarged prostate have given enough attention to the subject of syphilis to teach the differentiation between chancre, cancer and gumma of the lip, or between syphilitic leukoplakia and lichen planus of the tongue, or between gumma of the calf and Bazin's disease? Let us leave the reply to their conscience.

It is fair to conclude from this that to whatever department is assigned instruction in syphilis, the teacher must be a dermatologist. Nothing will be gained by creating a separate department of syphilology if the teacher must after all be a master of cutaneous diseases. It is far better to widen the scope of the department of dermatology in a manner commensurate with its newer extent, as has already been done at the University of Michigan and Columbia University.

Reflection on the significance of the disease to the individual and the race is amply convincing that its proper instruction is a matter of first rate sociologic importance. To raise the standard of teaching to a level worthy of the malady's import, several changes in medical school organization are essential. First, the department concerned with the subject may no longer be counted one of secondary importance. Syphilis, with dermatology, must at last be considered a major medical subject. Secondly, the chair of this department must be directly represented in the faculty. This is essential so that the head of the department may be in immediate touch with the heads of other closely concerned departments, notably those of internal medicine, pathology, bacteriology and neurology. The purpose of this is to facilitate the planning of a consistent curriculum in which the various phases of the disease may be properly emphasized. Changes in the plans of teaching, modifications in methods of instruction, the incorporation of new ideas determined by progress, must be accomplished through immediate representation. This is an important element in organization. But it is obvious that the man responsible to the community for instruction in the disease at present most important to mankind must be the official and scientific equal of all other members of the faculty.



## ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. FORDYCE, SMITH AND HEIMANN

DR. H. H. HAZEN, Washington, D. C.: The number of deaths caused by syphilis is a matter of vital importance. In one year Leredde estimated that the average number in France was 25,000 to 26,000, and in going over the census reports, I figured that at least 30,000 people die in the United States from syphilis and its various effects. One thing which could well have been brought out is in regard to the teaching concerning the Wassermann reaction. We cannot read the medical journals without seeing some article in which it is said that the Wassermann was positive or the Wassermann was negative. We never hear of an examination for the particular positive signs and symptoms of syphilis. It is possible that in some laboratories a Wassermann may be reported positive when there are no lesions, and in other cases in which there are lesions it may be negative; and to rely on the Wassermann test exclusively is to my mind a positive folly. Syphilis should be taught by the person with the most information and authority; and it seems to me that the papers read by Dr. Fordyce, Dr. Smith and Dr. Heimann have pointed out the right course for us to pursue.

DR. HARRY G. IRVINE, Minneapolis: There are many reasons for emphasizing this subject. Our country is about to draft and mobilize several hundred thousand men; many physicians will be called to the medical corps in this service, and it is extremely important that these medical men have a proper knowledge of venereal disease. In the armies abroad venereal diseases have presented a great problem. In the first eighteen months, the British army had more men disabled on account of these diseases than from injuries in battle. The Royal Commission on Venereal Diseases has found that the percentage of gonorrhea and syphilis has not increased in the army, but when we realize the immense increase in the army's size, an increase in percentage of total population must be noted. All of the warring countries are adopting strict regulations and campaigns of education of doctors and laymen.

Dr. Fordyce presented figures demonstrating the number of syphilitics; let me add some on the cost of syphilis. Government reports show approximately 200,000 insane in institutions. It costs about \$30,000,000 to care for them. Conservative estimates allow 20 per cent. for syphilis; therefore, not less than \$6,000,000 is spent yearly to care for the syphilitic insane. I made a survey last year in Minnesota. Estimates placed the number of syphilitics in asylums at something over 1,000, costing the state yearly about \$160,000, and yet nothing is spent in prevention, although we know modern treatment can entirely prevent these sequelae. In a survey made in New York City, only six out of twenty-nine clinics had reasonable requirements. In a like survey in Chicago only two were acceptable. The American Social Hygiene Association made the surveys. A year ago I investigated a number of syphilis clinics. Out of ten Class A colleges from Minneapolis east, in not over 50 per cent. was syphilis being taught or treated in a modern manner. These are some of the reasons why this subject merits our attention. I believe Dr. Fordyce has outlined an almost ideal clinic, and I know that an earnest attempt is made to live up to it.

A point made by Dr. Heimann should be emphasized. The head of this department must have a place on the executive faculty. In many schools a few men perform the administrative functions, and unless this department is represented there is little chance that syphilis will have its rightful place in the curriculum.

Dr. Smith made two very important points: the importance of personal contact between patient and physician, and of social service in this department. Many clinicians devote entirely too little time to these matters. New patients are quickly dismissed without being adequately informed as to their condition. Many schools are without social service in this clinic, and it is a foregone conclusion

that patients cannot be retained. I believe it is just as important for the student to see syphilis treated correctly in our clinics as it is that he be correctly taught in his lectures. One can almost say that syphilis is a preventable disease; at least, tabes, paresis, aortitis and various other late manifestations are preventable. The numbers of these cases demonstrates that, in general, syphilis has not been well treated, and one great reason for the poor treatment has been the poor teaching. Medical schools should not be allowed to dodge their responsibility in this matter, nor should we ourselves dodge our responsibility in making the school what it should be.

DR. A. RAVOGLI, Cincinnati: I might say what my experience is: I have tried to do my best to teach syphilis in Cincinnati University. I must point out, however, that I have been hampered in my work, first, by the general public; second, by members of the faculty; third, by the patients themselves; and fourth, by the students.

The general public does not want to hear that syphilis exists. In many of the hospitals when patients come with a hard chancre, the beginning of the bubo, they are turned out. Fortunately in our City Hospital they are admitted into the department of dermatology and syphilology. The patient cannot, however, receive salvarsan unless he has the \$4.50 or the \$5 to pay for the medicine, and in a great many cases when it is strictly necessary, he is turned out to go to work for a few days to earn the \$5 for his dose of salvarsan, with danger for himself and for others. After a time, when syphilis is in the form of an aneurysm or paralysis or tabes, then "it must be treated in the hospital." These patients could have been treated successfully in the beginning, which would have avoided the resulting trouble.

Second, I said the members of the faculty. The individual comes, say, with disease of the eye—iritis; he is referred to the department of the eye, and nothing is said about syphilis. I cannot forget the case of a man with typhoid fever—nothing else but typhoid fever—who finally had a maculopapular syphilid, the hard chancre yet existing. He had been treated for typhoid fever. Yet many members of the faculty regret that they have to turn out those cases, which they feel do not belong to the dermatologists, but rather to the neurologists, or to other specialties.

As to the students, they want to see operations. "Dr. So-and-So is operating"; and when it comes to a clinical demonstration of dermatology, it is hard to get the students into the department. They feel that they know everything; they see salvarsan do a great deal of good; they think they can give intravenous injections, and usually go outside of the vein, producing necrosis. They prefer the patient to have pills, and the patient is satisfied; he does not want to show the members of his family that he is rubbing mercury or getting strong treatment. What concerns the patients? When a patient has received injections of salvarsan and some treatment with mercury, he goes to a dispensary a few times and then thinks he is well and quits treatment, as all the recommendations are considered troublesome precautions. So, I say our work is greatly hampered, and when we will have educated thoroughly the general public, and when we have the profession more interested, when we have educated our students and our patients in the importance and on the disastrous consequences of syphilis we shall have accomplished much.

DR. FRANK EDWARD SIMPSON, Chicago: Inasmuch as the discussion is on the teaching of syphilis, I will draw a little diagram which I have devised and used for years to exhibit the general course which syphilis takes. It must be remembered, of course, that no diagram can actually represent the course of such a bizarre disease as syphilis. As an aid, however, in obtaining a bird's-eye view of the disease I have found it helpful to students. The period from infection to the chancre (I) is represented by a straight line. The duration of this period (primary incubation) is about three weeks, with limits of ten to seventy days. Following the appearance of the chancre (and of course

before its appearance) syphilis spreads along two routes—the lymph and blood channels—represented by the two diverging lines (I to II). The duration of this period (secondary incubation) is about six weeks with limits of twenty-four to 204 days. Traveling by way of the lymph channel (the upper diverging line) the spirochetes produce the bubo, generalized lymph-adenopathy and sore throat. Infecting the blood (the lower diverging lines) the Wassermann reaction appears and anemia occurs.

For convenience, rheumatoid pains, malaise and fever are set down on this line also. The secondary eruptions (II) now appear. Generally speaking, these eruptions are widely spread, involving the skin from the crown to the soles. The so-called secondary stage lasts perhaps a year and has no sharp and definite ending. During this period various structures may be invaded, as noted on the converging lines (II to "Latency with reminders"). The hair, nails, eyes and ears, etc., may show the results of invasion by the disease. Syphilis, however, becomes "diluted with time," and sooner or later a latent period (with reminders) ensues. This is shown by the break in the converging lines. A tertiary stage (III) may develop at an indefinite period after this. It is characterized chiefly by gummas, which may appear in the skin or viscera. Tertiary



Diagram used in teaching the course which syphilis takes.

eruptions are localized, as a rule, contrasting in this respect with the secondary eruptions, which are generalized. Quaternary syphilis (IV) may appear later consisting mainly of tabes and paresis.

The experienced teacher will detect certain faults in this diagram, of which I am fully aware. I have found, however, that it was important not to make it too complete and hence too complicated.

DR. THOMAS W. MURRELL, Richmond, Va.: In Richmond we have an amalgamation of two schools. Dr. Corlett read a paper there last summer and I appeared before our amalgamation committee and urged the appointment of a committee to handle this subject. Dr. Fordyce was made chairman and I was made second to him. I was fortunate enough to get the right professor appointed. The plan seemed ideal and we were very enthusiastic. I speak of a small college.

These men we work with are kind, educated gentlemen of the profession, but they ignore very casually our claims. It seems the screws must be put on them in some way, and if we could get compulsory laws passed, which must be obeyed, it would be a great step forward.

DR. JAY FRANK SCHAMBERG, Philadelphia: The central point around which the question of the teaching of syphilis revolves is the matter of the choice of the professor of syphilology. I am quite in accord with Dr. Fordyce when he says that every institution must decide this for itself. The man who is



best qualified by scientific attainment, teaching ability and interest in the subject, should be the one to be chosen. The acquaintanceship of the dermatologist with syphilis is such that the choice will usually fall on the dermatologist of the institution. This need not of necessity be so, however; wisdom will dictate that the selection should be guided by the various qualifications referred to. I believe with Dr. Smith that the professor of syphilology should be the guiding and controlling head of the department, but that he should ask certain other department heads to cooperate with him in teaching. No man can possibly be expert in ocular syphilis in all its manifestations; neurosyphilis in all its manifestations, and surgical syphilis in all its manifestations, etc. He must, therefore, call to his aid others who specialize in these particular branches.

We are just beginning to recognize the importance of syphilis. Metchnikoff has truly said that syphilis is one of the largest factors in the mortality of the human race, but it is a hidden factor; its prevalence is not shown on death certificates or in census reports.

There are certain points which might be emphasized in the clinical teaching. I think we are in error if we say to patients and to students that children born of diseased parents, in apparently good health, and with a negative Wassermann, are necessarily free of the disease. I think that is unfortunate. I believe it is impossible for any of us to say that an infant born of syphilitic parents is free of infection. I have seen children in splendid physical condition, with negative Wassermann during the first months of life, who later developed positive Wassermann reactions and exhibited persistent anemia and constitutional inferiority which yielded to specific medication. The varying methods of technic utilized by different serologists and the antigens they use are prone to give variant results. I think there should be some standardization of the Wassermann technic adopted by serologists.

I believe that the chief *raison d'être* for the existence of professorships of syphilis in medical schools, is to secure a continuity of teaching policy and a continuity of treatment for the patients in the associated hospitals. As stated by Dr. Heimann and others, there is in many medical schools absolute therapeutic anarchy on the subject of syphilis. This is positively demoralizing to medical teaching. The vast majority of syphilitic patients are undertreated. This is due, first, to the indifference of patients, and second, to the expense. Indifference can be in large part obviated by education, and the expense by a reduction of the cost of salvarsan.

At the Polyclinic Hospital in Philadelphia at present we are giving arsenobenzol injections free to any who apply for them. I have arranged with the board of trustees to inaugurate shortly, night clinics for the free administration of arsenobenzol, so that many of those working in the day may receive their treatment at night and resume work in the morning. There is no reason why the various states and municipalities should not be called on to furnish drugs of such vital importance to the public health. Furthermore, the state must provide adequate ward facilities for the treatment of syphilis in its early stages; this is the period when syphilis is most dangerous to the community and the period when we can accomplish most through treatment. Such organizations as ours must bring influence to bear on the public authorities to provide proper hospital care for early cases of syphilis. The public in Anglo-Saxon countries has been trained to shut its eyes to the official recognition of diseases of venereal origin. In the Johns Hopkins Hospital a syphilis clinic has been created with a definite annual endowment from a wealthy man in this country. The importance of the adequate treatment of syphilis is so great that any practical steps which can be taken by the public to lessen the ravages of this disease must be taken.

DR. HAROLD N. COLE, Cleveland: What Dr. Schamberg has said about the expense of treatment of syphilis is of importance. Family physicians and general practitioners, more than specialists, I think, get hold of a man and charge



him enormous prices for salvarsan, and get all the money he has; and after that, we find him at our free clinics.

As to the education of the public, we must start by educating the faculties in our medical colleges as much as anyone else; and as Dr. Schamberg says, we must have it so that we can thoroughly treat and study our syphilitics in the early stages; and then we will not have the long courses of treatment in later stages.

Through the cooperation of the board of health and the saloon-keepers' association in Cleveland, the saloon-keepers have agreed to remove all "patent-medicine" signs in their saloons, and they have placed up signs given by the board of health, directing persons afflicted with syphilis to go to the tuberculosis dispensaries, and they are sent from there to the syphilis department of Lakeside Hospital. In positive cases, we send the patients to the City Hospital, where they may get three or four doses of salvarsan and all the mercury they can stand. By this time all signs are removed from the skin; and then they are sent back to the day or night clinic. They are kept under treatment by salvarsan and mercury, and we charge \$5 for the salvarsan if they can pay. We have a social service where the patient is kept under adequate control. In case the patient does not go to the clinic, the police call at his home and will put up a sign, if necessary, and insist on the person going to the hospital. We find that method works well.

DR. JAMES HERBERT MITCHELL, Chicago: At Rush Medical College the teaching of syphilis has been very much the same as at other colleges. About two years ago our department of dermatology began the treatment of syphilis intensively by organizing within the department a laboratory for serologic work, together with paid full-time workers for the intravenous injections; at the same time a social service worker, devoting her entire time to the work in syphilis, was added to the social service department of the college. By getting a corner on the patients it has been possible to attract the attention of all the departments in the college to this particular branch of medicine. The number of cases has increased by leaps and bounds. On the 1st of January we opened a night clinic two nights a week, for industrial medicine. Those patients in need of treatment for syphilis are referred to the syphilis department of the night clinic. Injections of arsenic preparations are given every day of the week, and on some days as many as thirty injections are given. The cooperation of the other departments in the college has been splendid; they are constantly referring patients to this department for treatment, meanwhile keeping their cases under observation.

The efficient work of the social service department has enormously increased the number of patients, until now we are in danger of being swamped with cases rather than of not getting them to return for treatment.

DR. ISADORE ROSEN, New York: We all admit that syphilis is a constitutional disease. The dermatologist is usually called on to treat the external manifestations, or the eruption as it exists, regardless of the constitutional symptoms. In order to teach the subject of syphilis intelligently and thoroughly, the dermatologist and syphilologist must once more return to the practice of medicine and familiarize themselves with the use of the ophthalmoscope, stethoscope, pleximeter, and the various other instruments that modern medicine has devised to reveal the pathologic states.

Dr. Fordyce in his paper discusses the question of prophylaxis. To my mind this is the most important step forward; for the early recognition of involvement of any of the organs of the body, and the early institution of treatment before advanced pathologic changes occur, may arrest an advancing process. At the Vanderbilt Clinic we aim to perform lumbar puncture in all the patients with syphilis regardless of the stage of the disease. We also puncture all the patients before we discharge them as cured. It is surprising to note the number of cases that show positive findings in the secondary stage. Out of 275 unselected patients punctured during the last ten months, forty-five

were in the secondary stage; of these eighteen showed positive changes in the spinal fluid. Of course some clear up under the regular intravenous and intramuscular treatment; some again will not respond to the treatment, no matter how intensively employed. Teach the importance of prophylaxis in syphilis and reduce the inmates of the various institutions for chronic and incurable diseases.

DR. FRANKLIN W. GREGOR, Indianapolis: The gentlemen have held up to us ideal conditions for the teaching of syphilis, and in those institutions which have been splendidly endowed these ideal conditions may be maintained. In institutions of less wealth we can at least approach them. In the Indiana University School of Medicine, our junior students are divided into sections of about ten, and they remain in the section on dermatology and syphilis for a period of eight or ten weeks. We see from 400 to 500 cases a month in this dispensary clinic. The students observe the lesions; they hear the diagnosis, they become acquainted with the treatment, and they have the privilege of asking any questions that occur to them. Special cases are dwelt on specially. New cases are assigned to students, who present their work to the class at the end of the clinic, and their work is criticized. The first half of the clinic year in such cases, four to six or eight are presented in detail; and the last semester is devoted to didactic work. There should be the greatest opportunity for cooperation between the different departments, which probably most teaching institutions could improve on.

DR. JOHN H. STOKES, Rochester, Minn.: I believe you will be interested in the organization of the section of dermatology and syphilology in the Mayo Clinic. Dealing, as we do, with pay patients and not dispensary types, makes the problem we confront different from the average. The section was created in response to a realization on the part of the clinical staff that dermatologic material was passing through their hands. It was expected that my service should administer salvarsan, but it remained for us to demonstrate that the dermatologist of the clinic had something distinctive to contribute as a syphilographer, and was the logical head of a service for syphilis. Such a demonstration could not have been accomplished merely through official legislation or by force or fraud, but rather by showing that the dermatologist as a syphilographer had a point of view toward the disease which no internist, surgeon, nose and throat man, or other clinician could afford to disregard or refuse to utilize. Acting along these lines, and employing under Dr. Sanford a conservative Wassermann, which properly emphasized the value of clinical judgment in the diagnosis of syphilis, we have succeeded in developing a combined service for dermatology and syphilis which holds its place not only by virtue of official understanding, but also apparently because it has shown to a group of open-minded men that it is worth while to have one reasonably well-trained man devote his whole thought to this field, to coordinate the activities of other clinicians and direct the systematic treatment of syphilis. In the ten months since the organization of the service, incidental treatment of syphilis has been replaced by a thoroughgoing six-weeks' "Kur," with systematic oversight and follow-up systems adaptable to every form of the disease. The option on the treatment of practically every case of syphilis recognized in the clinic now rests with us. Beds are, I believe, a fundamental necessity on such a service, and we have accordingly a hospital unit of twenty-five beds for our exclusive use. The personal touch which Dr. Smith mentions is also a fundamental necessity, and we have been at great pains to develop it, with most gratifying results. No service should be allowed to grow to the point where it is lost sight of, and the clinician or consultant who belittles or overlooks it will not get long-run results. It is this element in our organization, I believe, which now enables us to individualize our patients so that we can care satisfactorily for a track laborer or a millionaire, and bring persons of limited means distances as great as 1,500 miles to meet follow-up appointments with us.

DR. BOLESŁAW LAPOWSKI, New York: As there is no standardized method of treatment of syphilis, it is not advisable to concentrate in teaching treatment of syphilis to one department and deprive other departments—for instance, the neurologic department—of the opportunities of teaching and of using their material and other methods. The teacher of syphilis may consider in his lectures all methods; but he will practice only one, namely, that which he believed to be the best. On the other hand, the teacher of nervous diseases may not agree with the syphilographer's conception regarding, for instance, the use of the spinal canal and its fluid for diagnostic and therapeutic purposes. He might consider his underlying conception a fallacy and his procedure superfluous, or even dangerous. Out of the clash of the different opinions and methods—of the anarchy in treatment, as it was called by a previous speaker—progress in treatment will develop, a healthful spirit of inquiry, a stimulus to scientific research will be engendered among the teachers, and the witnessing student will gain a broadening view of the subject. The medical student carries with him for many years what is inculcated in him during the molding period of his medical studies.

There is a tendency to sacrifice clinical teaching at the altar of the laboratory. The tendency is dangerous, as we weaken our chances of a most successful and necessary appeal from a very often capricious verdict of the laboratory. Moreover, in course of time, when, with the development of pathologic chemistry, the etiology of the various protein skin manifestations in syphilis and dermatology are known, the physician of that period will not be able to read correctly the report of the infallible laboratory of the living body, written on the skin, because we of the present generation neglected to pass on to him that art. This art is in danger of dying out with the present generation of physicians if we sacrifice clinical teaching for the sake of the laboratory.

DR. JOHN A. FORDYCE, New York: I desire to emphasize the statement made by Dr. Rosen as to the importance of investigating the spinal fluid in the secondary period of the disease and impressing students with the fact that tabes, paresis, optic atrophy and the cardiovascular complications of syphilis probably begin in the first year of the infection. If, by early diagnosis and proper treatment, we can anticipate or cure complications at this time, we will do much to prevent the subsequent development of the large number of hopeless invalids who fill our hospitals and public institutions. Infection of the spinal fluid takes place in from 25 to 30 per cent. of patients in the secondary period of the disease, and sometimes during the administration of salvarsan and mercury. In such cases it is useless to continue the administration of the drugs in the usual manner, which do not reach the infection of the central nervous system. This can only be accomplished in certain cases by intraspinal treatment. A general recognition of this fact may lead to proper investigation and treatment of this unfortunate class of patients. When departments for the teaching of syphilis are properly organized in medical schools, students will begin the practice of medicine with a correct conception of the nature of the infection and be prepared to treat their patients according to approved and standardized methods. In time this will result in a diminution in the number of cases of cerebrospinal, cardiovascular and other types of late syphilis.

DR. C. MORTON SMITH, Boston: A word in regard to the importance of diagnosing syphilis at the earliest possible minute, and of intensive treatment: It seems to me that having syphilitics treated in every department is much like the status of tuberculosis a few years ago, when the patient went from one department to another, receiving no consistent treatment. For instance, the condition of interstitial keratitis; when the local manifestation has recovered the interest of the ophthalmologist ceases, but the individual requires constitutional treatment for a long time. There is still need of careful clinical examination, together with a dark-field examination, and submission of blood for the Wassermann test. It seems to me the place for the Wassermann reaction is in conjunction with the other signs and symptoms of the disease. Not for an



instant would I give up the Wassermann test, but do not rely on it alone. The value of continued observation is of great importance, and the fact that the patient sees the same physician at each visit, is a great help in diminishing the amount of follow-up work required in a hospital clinic.

DR. WALTER J. HEIMANN, New York: The teaching of syphilis presupposes a general and therapeutic knowledge which no other disease requires. We are dealing with a social rather than an academic problem, and we must consider how best we can send men from the undergraduate schools fitted to combat a disease which is attacking the vitals of modern society. What we are attempting is to give the public a host of capable soldiers equipped with positive knowledge. There is one way to accomplish this, namely, by furnishing medical students with simple, coordinated instruction in a central department. If, as Dr. Lapowski suggests, we let everyone teach syphilis, then truly we will have the anarchy he speaks of. And at this time I want strongly to dissent from Dr. Lapowski's aphorism that anarchy is progress. Some of us with more ordered ideas think anarchy is subversive of the mental calm necessary for rational thought. We are teaching undergraduates, not postgraduates, and at their stage of development they are not able to criticize what they are taught. That comes later in life. We must give them enlightenment. They may have as much rope as they wish for criticism afterward. Medical students, however, are mere boys, and they must leave school with clear ideas imparted to them by their teachers. This cannot be, if every member of the faculty gives the boy a different point of view. He must at first learn dogmatically, and it is not beneficial to society to have his teachers undertake flights into the empyrean of anarchy. I believe that it is more the fault of the faculty than of their appointee if syphilis is taught by any one but the man best fitted for the task, and if that man does not believe he can teach he should not accept the appointment. On the other hand, if the faculty selects one unfit for this important work, it permits a social crime. If syphilis should be left open to teaching by any and every method, we might as well say that arteriosclerosis should be taught by the different departments. The same applies to diseases of the central nervous system, or of the kidneys. All of these conditions have manifestations bringing them within the scope of special fields of medicine. They are taught, however, in the centralized department of internal medicine. Their special manifestations are properly considered in suitable departments. Similar principles of centralization are necessary in the efficient teaching of syphilis, and such suggestions as Dr. Lapowski's are dangerous. I wish most emphatically to go on record against Dr. Lapowski's point of view for the sake of the reputation of this section.



## THE CLASSIFICATION OF THE URTICARIAS \*

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At this time, when our knowledge of the anaphylactic phenomena underlying the production of urticarial lesions is gradually becoming stabilized, if not perfected, a brief review of the various clinical forms of the disorder may not be out of place. Willan<sup>1</sup> recognized six varieties of the affection: two acute—*U. febrilis* and *U. conferta*, and four chronic—*U. evanida*, *U. perstans*, *U. subcutanea* and *U. tuberosa*; and his classification was adopted without alteration by Erasmus Wilson.

Since Wilson's day, a score of other names, all more or less descriptive in character, have been suggested for the various clinical varieties of the disorder. Crocker, who was as apt in describing the objective manifestations of a cutaneous malady as he was expert in recognizing them, described three principal forms of non-pigmentary urticaria—*U. acuta*, *U. chronica*, and *U. papulosa*—with almost a score of sub-varieties; the more important being *U. tuberosa*, *U. bullosa*, *U. hemorrhagica*, *U. factitia*, and *U. edematosa*. His *U. papulosa*, the "lichen urticatis" of Bateman, bears a striking resemblance to the prurigo mitis of Willan.

The chronic forms are represented by *U. recurrens*, which is characterized by repeated outbreaks of the acute type, the skin seldom, if ever, being entirely free from lesions; and *U. perstans*, a form in which one or more "mother lesions" develop and persist, but become prominent and itchy only during concomitant attacks of wheals of the ordinary type.

The pigmentary forms of the disorder are less familiar to the majority of dermatologists. Localized or areolar pigmentation occasionally follows ordinary urticaria in adults, but it is to the variety first described by Nettleship, in 1869, and christened "urticaria pigmentosa" by Sangster<sup>2</sup> (the urticaria perstans pigmentosa of Pick<sup>3</sup>)

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1. Willan, cited by E. Wilson: *Diseases of the Skin*, Phila., 1837, p. 138.

2. Sangster: *Lancet*, London, May 11, 1878.

3. Pick, cited by Duhring. *Cutaneous Medicine*, Phila., 1897. 2 p. 301. Idem., *Verhandl. d. deutsch. dermat. Gesellsch.*, 1889, p. 276.

that reference is commonly made when speaking of this variety of the disorder.

Unna first demonstrated that in true examples of urticaria of the Nettlelip<sup>4</sup> type the lesions contained vast numbers of so-called "mast cells," a fact which has since frequently been utilized in the differential diagnosis of the disorder.

Quinquaud,<sup>5</sup> and later, Lesser,<sup>6</sup> described cases of pigmentary urticaria in which the lesions, which early exhibited evidence of brownish or yellowish coloration, were mast-cell free. Quinquaud's patient was a boy of 10, and the eruption, which was for the most part macular and nodular, involved the face as well as the trunk and limbs. In Lesser's case, which occurred in a woman, aged 37, the pigmentary lesions were confined to the covered surfaces and had been present several months.

Ormsby<sup>7</sup> recently exhibited before the Chicago Dermatological Society a similar example of the nonmast cell type, also occurring in a young woman, and during the past year I have had under my care a case which was practically a duplicate of the one shown by Ormsby.

The patient was a woman, single, aged 24, a teacher by occupation, referred to me by Dr. Thomas T. Holt of Geuda Springs, Kan. The eruption, which had been present five months, involved the upper portion of the trunk, the arms and the thighs. At first the lesions could not be differentiated clinically from those of ordinary urticaria, although the majority were somewhat more persistent. At the end of a few weeks, however, it was found that many of the little tumors, which were for the most part pinhead to splitpea sized and oval in outline, persisted and assumed a pale-yellowish, chamois skin-like tint. When I first examined the case, fully 200 lesions of this type were present, and the patient was also suffering from intermittent attacks of urticaria acuta of the ordinary type. Following a series of cutaneous tests, it was found that egg-white was probably the provocative factor, and under a restricted diet relief was fairly prompt. The pigmented lesions persisted, however, with little or no change. Histologically, they resembled in some respects the "mother lesions" of urticaria perstans, although slightly more acanthotic, and, of course, far richer in pigment. The source of the coloring matter could not be definitely ascertained. No mast cells were to be found.

At this time I believe that the following classification of the urticarias may tentatively be adopted:

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4. Nettlelip: *Brit. Med. Jour.*, 1869, 2, p. 323.

5. Quinquaud: *Ann. de dermat. et de syph.*, 1893, 4, p. 859.

6. Lesser: *Verhandl. d. deutsch. dermat. Gesellsch.*, Wien., 1892, p. 245.

7. Ormsby: *Trans. Chicago Dermat. Soc.*, 1917.

## CLASSIFICATION OF URTICARIAS

U. acuta	{	U. factitia (dermographism)	{	Red
		U. papulosa		White <sup>s</sup>
		U. tuberosa		
		U. bullosa		
		U. hemorrhagica		
		U. gigans		
		U. subcutanea (Willan. The urticaria edematosa of Hardy.)		
Urticaria	{	U. recurrens (the urticaria evanida of Tilbury Fox)		
		U. perstans {	{	U. perstans tuberosa
		U. perstans {		U. perstans verrucosa
				(excluding prurigo nodularis)
U. pigmentosa	{	Mast cell type	{	Macular
				Nodular
				Maculo-nodular
				Vesicular
		Mast cell free type		

8. Nikolsky has commented on the lack of discrimination in the textbooks between red and white dermographism. Drawing a spatula or the fingernail along the skin may cause the production of a red line along the path of this mechanical irritation, or a line of whiteness may be observed. The white line is particularly striking when it occurs on an area of skin already reddened by inflammation or sunburn. He expatiates on the antagonistic mechanism of these reflexes, and the importance of heeding this mechanism in treatment of skin affections. The red line indicates excessive irritability on the part of the vasodilating nerves, while the white line indicates a spasm of the vasoconstricting nerves. The reflexes may occur in different intensity on the trunk and on the extremities of the same patient, and they may differ likewise on the inflamed and sound skin of the same patient. The absence of any reaction is also instructive in certain skin diseases, and likewise the changes in the reflex under the influence of therapeutic measures. As hyperemia may occur from dilatation of the vessels under the action of unduly irritable vasodilator nerves, or it may occur from paralysis of the vasoconstricting nerves, the skin reflex will reveal which of these mechanisms is responsible. This will enable us to apply sedative or stimulating remedies as indicated, and places treatment on a scientific basis instead of on mere empiricism. If a person with white dermographism has the skin rubbed to induce hyperemia from the friction, and then the test for the skin reflex causes no white line to appear on the reddened area, we can assume a paralyzed condition of the vasoconstrictor nerves. The friction upsets the unstable balance of the vasoconstrictors, and the hyperemia induced is of the paralytic type. This may occur likewise from the action of the mercury vapor lamp and of carbonated baths.

In addition to the references cited, the following will be found of interest:

Crocker: Diseases of the Skin, Phila., 1908, 1, p. 155.

Blumer: Monats. f. prakt. Dermat., 1902, 34, p. 213.

Little: Brit. Jour. Dermat., 1905, p. 121 et seq.

Baker, Morrant: Med. Chir. Trans., 1881, 64, p. 384 (Urt. perstans verrucosa). Idem. Trans. London Dermat. Soc., Oct. 14, 1891.

Biddle: Tr. Sec. Dermat. Am. Med. Assn., 1916.

Pusey: Trans. Chicago Dermat. Soc., 1915.

Nikolsky: Russky Vrach, 15, No. 37, p. 865. Abstracted Jour. Am. Med. Assn., 1916, 67, p. 1797.

Sutton: Arch. Diag., 1913, 6, p. 341 (U. perstans).

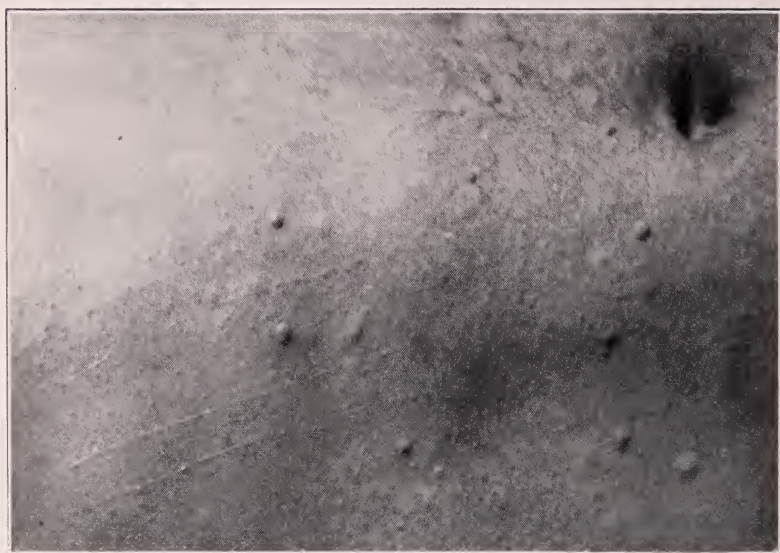


Fig. 2.—Urticaria papulosa.



Fig. 1.—Urticaria perstans, showing two "mother lesions," in a case of many months' standing.





Fig. 3.—Urticaria pigmentosa sans mast cells. Case here reported.



Fig. 4.—Lesions on arm in case of pigmentary urticaria here reported. Some of the lesions in this locality were yellowish in color, but none were so deeply pigmented here as on the trunk.

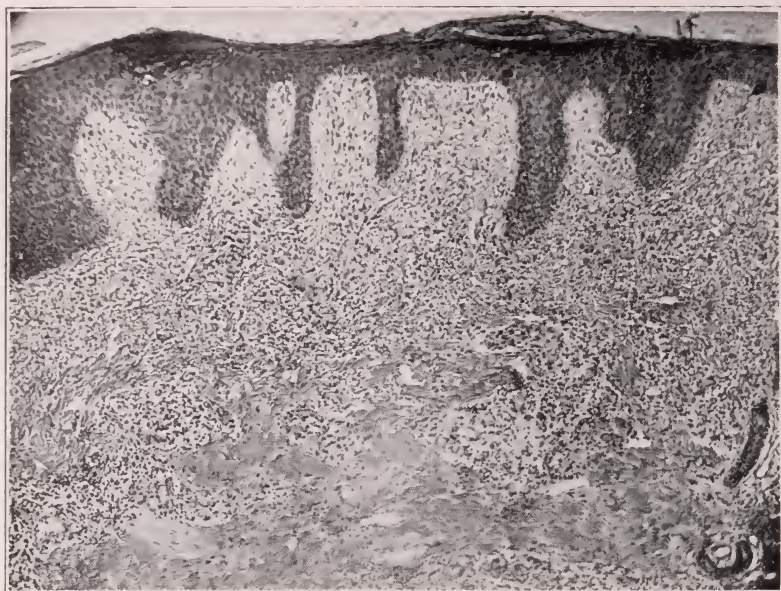


Fig. 5.—Urticaria perstans. Section from "mother lesion." Low magnification.



Fig. 6.—Urticaria pigmentosa of the bullous type. Low magnification.  
(Courtesy of Dr. William Allen Pusey.)

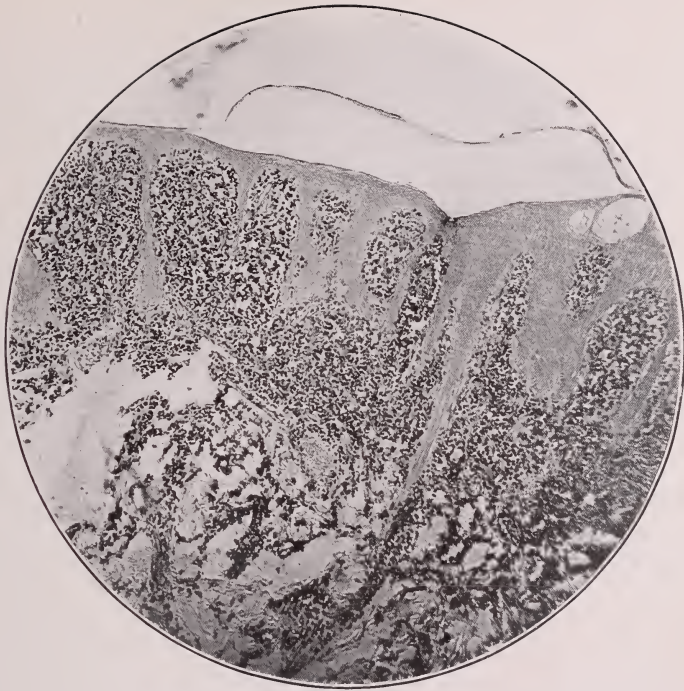


Fig. 7.—Urticaria pigmentosa of the usual variety. Note mast cells. Low magnification.

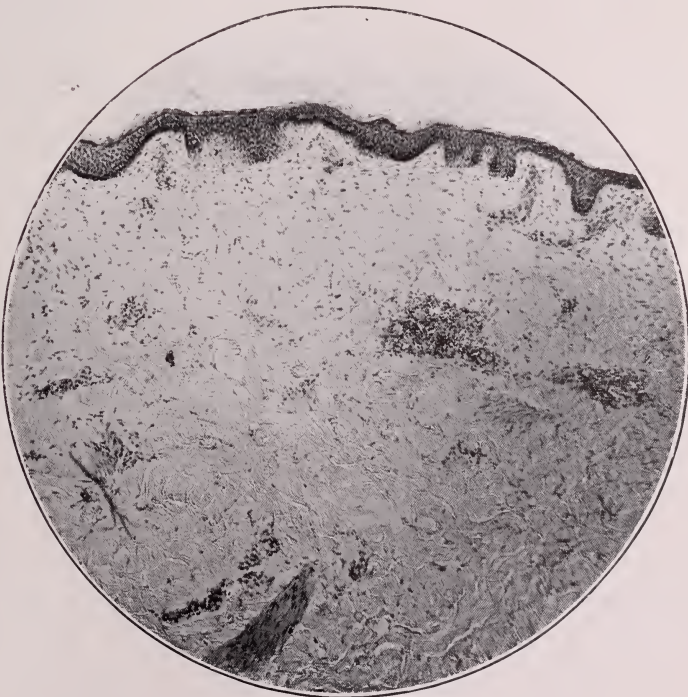


Fig. 8.—Urticaria pigmentosa sans mast cells. Case here reported. Low magnification.



## LATE URTICARIA PIGMENTOSA, OR URTICARIA PIGMENTOSA BEGINNING AFTER PUBERTY\*

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A marked characteristic of urticaria pigmentosa is the very decided predilection which it exhibits for infancy and early childhood. Of eighty-three cases collected by Blumer<sup>1</sup> in 1902, more than 67 per cent. began before six months of age, and 71 per cent. within the first year. But, while the affection remains practically a disease of infants and children, there has been, with the increase in the number of cases observed, a steady increase in the proportion of cases reported in which it began at a much later period of life. In a table compiled by Graham Little<sup>2</sup> in 1905, embracing 142 cases, including fourteen of his own, no less than twenty-two, or a little more than 14 per cent., began at or after puberty. Although these late or delayed cases in many instances do not differ in any essential particular from the early ones, a considerable number present more or less marked departures from the typical case; and it is the purpose of this short paper to call attention to some of the unusual features and to report two new cases beginning in adult age.

The adult cases rarely present an eruption of what may be designated the xanthelasmoid type, using the term employed by Tilbury Fox and which might well be still retained for the cases beginning in infancy with yellowish, infiltrated lesions. They are frequently largely or wholly macular in type and are for the most part distinguished by the mild character of the urticarial symptoms, or not infrequently by their complete absence; and in a few cases the relationship of the pigmented lesions to the urticaria was far from being satisfactorily demonstrated.

Under the title, "Chronic Urticaria Associated with an Eruption Consisting of Extremely Itchy Papules Followed by Ringed Pigmentation," Wallace Beatty<sup>3</sup> has reported a case of chronic urticaria occurring in a young woman, 23 years old, who for a year had suffered from what appeared to be ordinary "hives," the eruption coming and going in the usual fashion. After some months another eruption appeared

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1. Blumer: *Monatsh. f. prakt. Dermat.*, 34.

2. Little: *Brit. Jour. Dermat.*, 17.

3. *Brit. Jour. Dermat.*, 1891.



which consisted of extremely itchy, raised, red spots which after a few days flattened down and became brown. These papules "did not develop as wheals, but were independent of them." Many of the brown spots were circular in shape, having whitish centers, others were uniformly brown. No factitious wheals could be produced. In reporting this case the author refers to two cases of a similar kind, observed some years before, occurring in two brothers, one of them 15 years old, the other 12. As no microscopic examination of the lesions was made the presence or absence of *Mastzellen* was not determined.

In an adult case occurring in a woman, observed by Graham Little, the affection began at 33 years of age, as dark spots which spread and eventually formed large areas of pigmentation. The brown patches were slightly itchy in the beginning, but there was no history of wheals at any time during the course of the malady; there was a mild dermographism. *Mastzellen* were present in small numbers, much less abundant than is usual in urticaria pigmentosa but much more numerous than in the normal skin or in any other diseased condition.

As urticaria with the formation of pigment, Rona<sup>4</sup> has reported a somewhat similar case of seven years' duration in a young man, beginning at 18 years of age as an ordinary urticaria, but followed later by pigmented patches which varied in size from a one-mark to a five-mark piece. The microscopic examination showed a cellular infiltrate chiefly about the vessels, the sebaceous glands and the ducts of the sweat-glands, composed of mononuclear leukocytes, plasma-cells and a moderate number of *Mastzellen*.

At a séance of the Société Française de dermatologie et de syphiligraphie, Hallopeau\* presented as a case of urticaria pigmentosa a man with a pigmented eruption most abundant on the trunk but also present on the limbs, arranged in parallel bands. The only subjective symptom was a slight pruritus in the evening when the clothing was removed. In addition to the unusual arrangement of the pigmentation, a second remarkable feature was present as scattered superficial cicatrices. The correctness of the diagnosis was questioned by Brocq and Besnier, but was maintained at a subsequent meeting by Hallopeau after further observation of the case. There was no microscopic examination of the lesions.

One of the latest cases is one reported by Darier<sup>5</sup> which began in a man at 55 years of age. The malady began very insidiously, the eruption resembling the bites of insects. There were no spontaneous urticarial attacks and no itching, but factitious urticaria could be pro-

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\* Hallopeau: Ann. de dermat. et de syph., 3 s. 6.

4. Rona: Arch. f. Dermat. u. Syph., 40.

5. Darier: Ann. de dermat. et de syph., 4 s. 6.

duced. In a second case observed by the same author the pigmentation first appeared at 16 years of age without urticaria and without itching. In both these cases the presence of *Mastzellen* in abnormal numbers was demonstrated by biopsy.

As urticaria perstans with the formation of pigment, Doutrelepont<sup>6</sup> has recorded a case of urticaria in a man, beginning at 38 years of age. It began as an eruption of wheals which lasted several days and disappeared very gradually, leaving pigmentation. Some of the wheals, especially those on the hands and thighs, were very plainly hemorrhagic. Microscopic examination of nonhemorrhagic lesions showed practically the same histologic features as a case of urticaria pigmentosa reported at the same time by this author. There was a trifling exudate of small round cells in the midst of which were *Mastzellen*, less numerous, however, than in the case of urticaria pigmentosa. The author was not inclined to attribute much importance to the presence of *Mastzellen* in the latter disease, since these are more or less increased in all inflammatory affections of the skin.

As a pigmented urticating disease (*maladie pigmentée urticante*), Quinquaud<sup>7</sup> presented before the Société Française de dermatologie et de syphiligraphie, a man, 55 years old, who had an abundant eruption of pigmented macules situated chiefly on the trunk. Some of the macules were various shades of yellow, others were red and still others were of a decided bluish hue. The affection had begun ten years before, with macules which itched moderately when rubbed and became slightly elevated; there was likewise a factitious urticaria. The histologic examination showed pigment in the lower cells of the rete, but no *Mastzellen*.

Lesser,<sup>8</sup> at a meeting of the Berlin Dermatological Society, exhibited a woman, 27 years old, who six months before had had an eruption of wheal-like lesions, the size of a lentil, which increased in size later until some of them were as large as a ten-Pfennig piece, were 0.5 cm. high, and became brown. There was a marked factitious urticaria, but never the slightest itching. Very few *Mastzellen* were found in the lesions.

Kreibich<sup>9</sup> has reported a case closely resembling the foregoing in a woman, 42 years old, which had begun eight or ten years before, as an eruption of urticarial wheals without itching, followed by pigmentation. Unlike Lesser's case, however, *Mastzellen* were present in the lesions in great abundance.

6. Doutrelepont: Arch. f. Dermat. u. Syph., 22.

7. Quinquaud: Ann. de dermat. et de syph., 3 s. 6.

8. Lesser: Dermat. Ztschr., 7.

9. Kreibich: Arch. f. Dermat. u. Syph., 48.

Bohac<sup>10</sup> observed a case in a man, 40 years old, in whom the affection had begun thirteen years before, with such complete absence of subjective symptoms that the patient's attention was first called to the eruption by his wife, who noticed the pigmented patches and thought they were moles. Factitious urticaria could be produced. The histologic examination showed some edema of the rete with vacuolization of cells in the lower layer and collections of pigment over those portions of the cutis in which pathologic alterations, such as a moderate exudate of mononuclear leukocytes around the vessels, were present. *Mastzellen* were found in abundance, both disseminated and as *Mastzellen* tumors.

Biach<sup>11</sup> has recorded a case in a woman who at the time of the observation was 54 years old. The affection had begun seven years before, as a more or less generalized red eruption, which later became brown; there was marked factitious urticaria. There was abundant pigment in the lower portion of the rete and upper part of the corium, with some perivascular and periglandular exudate of mononuclear leukocytes, but no *Mastzellen*.

Quite recently Kerl<sup>12</sup> has reported a case as pigmented urticaria, occurring in a young man, 22 years old, who presented an abundant eruption consisting of dark-brown macules, red nodules the size of a lentil and blue macules especially abundant on the penis, resembling *taches bleuâtres*, but no pediculi nor ova could be found. While he was under observation typical urticarial wheals accompanied by severe itching, appeared. The patient's general condition was not good. A microscopic examination of the lesions showed considerable quantities of pigment in the papillæ of the corium, but the rete was almost completely free, and *Mastzellen* were entirely absent.

Still more recently, Cassar<sup>13</sup> has recorded a case in a youth, 15 years old, the affection beginning as itching red papules which were followed by brown macules. For a time urticarial lesions, limited to the trunk, appeared almost daily accompanied by moderate dermatographism. An especially interesting feature was an eosinophilia of 8 per cent. Only a small number of *Mastzellen* were found along with a perivascular infiltration of polynuclear neutrophils.

Within the past year, two adult cases of urticaria pigmentosa have come under my observation, and both have presented some unusual features.

#### REPORT OF CASES

CASE 1.—A man, aged 28, came to the skin dispensary of the University Hospital in May of last year, with an abundant and widely distributed erup-

10. Bohac: Arch. f. Dermat. u. Syph., 82.

11. Biach: Arch. f. Dermat. u. Syph., 3.

12. Kerl: Arch. f. Dermat. u. Syph., 118.

13. Cassar: Ann. de dermat. et de syph., 5 s. 6.

tion, no region except the face being free, consisting of quite small, round and oval, brownish-red and brown macules and very slightly elevated maculopapules. When rubbed, the lesions, particularly the red ones, became slightly elevated and a moderate dermographism was present. There were no subjective symptoms worthy of note. The affection had begun five years previous, following an attack of "hives" which had come on at the seashore, lasting about two weeks. It could not be learned with any degree of certainty how soon after the hives the pigmentation had appeared, but it was quite definitely ascertained that there had been no other urticarial attacks throughout the entire course of the disease. From a little distance the eruption resembled very closely a maculo-papular syphiloderm, undergoing involution. A biopsy fully confirmed the clinical diagnosis of urticaria pigmentosa, and it may be added that there was a negative Wassermann reaction.

CASE 2.—Early in February, 1917, Mrs. K. C., aged 26, came under observation with a scanty eruption of small, oval and round, brown macules, some of which very slightly projected above the surface of the skin, situated principally on the flexor surface of both forearms. A few spots were also present on the malar eminences, the chest, the legs and the feet. Those on the face had appeared only quite recently and it was the appearance of the eruption in this region which led the patient to seek advice. There were no subjective symptoms of any sort, nor any history of urticaria at any time. The eruption had been first noticed seven years ago, when the patient was 19 years old. As in the preceding case, the clinical diagnosis was confirmed by a microscopic examination of the lesions.

#### HISTOPATHOLOGY

Sections made from an excised maculo-papule of the first case showed decided pathologic changes in both the epidermis and the corium. In the former, there was a moderate intercellular edema with considerable acanthosis and vacuolization of some of the cells in the central portion of the rete. In the lower layers of the rete there was considerable pigment which was not uniformly distributed along the line of junction with the papillary body, but was most abundant at the bottom of the interpapillary prolongations and entirely absent in other parts. In the papillæ and especially in the subpapillary portion of the corium there were numerous *Mastzellen* of large size and for the most part round or oval in shape, although spindle-shaped and branched cells were also present. They were arranged in rows running parallel with the surface of the skin except in the papillæ, where they were situated along the vessels. A noticeable feature was the presence of numerous granules outside the cells, in places some distance from any cell, which stained like the intracellular granules. It was quite apparent that these were derived from the *Mastzellen*, many of which exhibited decided signs of disintegration. Here and there were small collections of mononuclear leukocytes and in a few places polymorphonuclears.

In sections of the second case the *Mastzellen* were decidedly less numerous than in the first, but still much more abundant than in normal skin or in other diseases. They were comparatively small and were almost entirely of the spindle-shaped and branched variety. No



extracellular granules, such as were found in the sections of the first case,\* were observed.

A number of unstained sections were examined with the view of learning how much of the pigmentation, if any, was due to the *Mastzellen*. Graham Little and Raymond<sup>14</sup> regard it probable that it is largely, if not wholly, due to the accumulation of these cells; but even a cursory examination of unstained sections showed that the pigmentation was wholly due to the presence of pigment in the rete and upper portion of the corium, and not at all to the *Mastzellen*.



Fig. 1.—Photograph taken in 1907, at the time of entrance into hospital.

While it may be admitted that the diagnosis in a number of the adult cases very briefly summarized in this paper is open to question, it must be granted, I think, that they all belong to a group of cases of which the several members are at least closely related if they do not represent the same affection. Some of them were reported as cases of chronic urticaria with pigmentation and not as urticaria pigmentosa.

14. Raymond: Thèse de Paris, 1888.

the distinction from the latter malady depending on the scantiness or complete absence of *Mastzellen*, but clinically they frequently resembled the cases in which these cells were quite abundant. It does not seem to have occurred to any one that *Mastzellen* may have been present in some of these cases in the earlier stages and have disappeared later. As the result of my own limited experience with the affection and a somewhat extensive survey of the literature, I do not think the small, often insignificant, rôle played by urticaria in the symptomatology has been sufficiently emphasized, although all authorities are agreed as to the inappropriateness of the name by which it is known. In a considerable proportion of the late cases, urticarial symptoms have been wholly absent or so insignificant as to attract but little

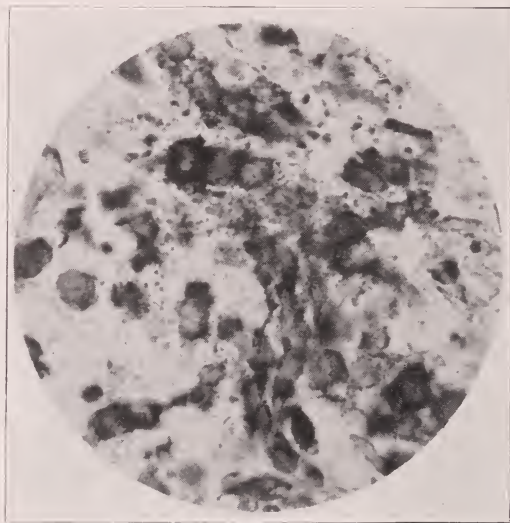


Fig. 2.—Disintegrating *Mastzellen*; granules outside of cells.

attention on the part of the patient; and in those in whom wheals or wheal-like lesions were present, itching was often trivial and not infrequently absent altogether.

#### DISCUSSION

DR. PUSEY said he thought Dr. Sutton had done a distinct service in attempting to classify the urticarias. He said "attempting." The speaker assumed that Dr. Sutton did not feel competent to say the last word on the classification of the urticarias. He said he was not able to discuss Dr. Sutton's paper, because a paper of that sort needed a good deal of agitation and we would discuss things not germane to the subject.

In connection with Dr. Hartzell's paper the speaker said he would like to report a case of urticaria pigmentosa occurring in an adult who was under his observation a year or two but had since gone to Italy. The patient was an Italian, 30 years of age, in whom the disease developed in the twenties. He had pea-sized oval lesions. So far as the speaker knew, there was noth-

ing in the history except urticaria pigmentosa, with the typical xanthelasmoid-like lesions. He had a photograph of the case, which was passed around. Histologically, it was a typical case of urticaria pigmentosa. There was an infiltration of mast cells. He thought the mast cells may be overlooked in these cases, unless special stains were used for them. It was said that the character of the cells was by no means clear until we used a special stain. One interesting feature in this patient's case was that occasionally vesicles were found on top of small nodules, and the speaker had a photograph of one of these small bullae, and another showing dense infiltration of the mast cells around the nerve. This patient was seen by several of the dermatologists present. The disease developed in adult life and showed histologically the typical picture of urticaria pigmentosa.

DR. RUGGLES said he saw a case of urticaria pigmentosa in an adult, years ago. The patient was a man, 30 years of age, in whom the disease had been present a couple of years. The disease began as small, yellowish, pigmentary marks, without itching. The marks increased in size and became darker in color. It made the young man miserable because he loved athletics and swimming and was ashamed of the cosmetic defect. He became a neurasthenic lately on account of this disease, although he was assured it was harmless. He was finally killed in a railroad wreck and his troubles were ended.

DR. WALLHAUSER said he would like to report a case he had under observation, which he was going to present before the meeting of the American Medical Association. The patient was a woman, 30 years of age, whose cutaneous manifestations began very much like the case reported by Dr. Hartzell and they correspond with his case in regard to the distribution of the lesions, affecting the extensor surfaces of the arm, the angle of the jaw and slightly the thighs. The lesions were quite uniformly of pea-size and began without much itching, with recrudescence of the irritation. An interesting feature in connection with this case, and one he had previously mentioned, was a recrudescence following the injection of an immunizing dose of antitoxin. Every one of these macules developed efflorescences more marked than in any other previous attack.

DR. HAZEN said he should like to say a word about the classification of chronic urticarias. It seemed to him the time was rapidly approaching when we shall be able to classify the urticarias according to an etiologic basis. There were two groups we may call special attention to at the present time; the one group of chronic urticaria associated with focal infection of some sort—malaria, for instance. In his own experience he had had a number of cases in his clinic associated with syphilis. He found in a hospital clinic that nearly one third of the cases that gave a positive Wassermann, cleared up after the administration of salvarsan and mercury, and relapsed when medication was stopped and cleared up again when medication was resumed. There was some etiologic basis for these cases.

Chronic urticaria may accompany hydatid cysts. He had had one or two illustrations in which the tonsils and the teeth were infected. A second group of chronic urticarias was associated with vagotonia, a large number of impulses going out through the vagus nerve.

As to whether any of the urticarias were associated with the opposite nerves, a sympathetic vagotonia, he did not know. We knew definitely that atropin had been used for a long time to relieve certain cases of chronic urticaria. We had a rational basis for its use in the fact that atropin blocked the impulses that went down through the vagus nerve.

DR. HEIMANN said it had been delightful to listen to these two papers dealing with such important subjects. He agreed with the last speaker as to the necessity and emphasis for a classification of the urticarias on an etiologic basis. We knew we had a number of causes at work in producing hives. Almost any substance was capable of doing it, whether the flesh of animals, protozoa.

or bacteria, etc. He wondered, in the last analysis, whether one cause capable of producing all these manifestations may not be a sort of protein, in the sense of Vaughan.

With reference to urticaria pigmentosa, it was a disease about which there had been considerable confusion, largely because our conception of it had not been based on a sound etiology. Unquestionably urticaria pigmentosa or xanthelasmoidea was difficult to differentiate from pigmented urticaria, in that they looked so much alike that we could not rely on the clinical manifestations of the disease to differentiate the two processes. There was a satisfactory way of differentiating between the two, and that was by means of the microscope. The deeper lesions may lose their mast cells, so if that was the case we would not be able to distinguish microscopically between a waning urticaria pigmentosa and ordinary pigmented urticaria. Whether the mast cells were regarded as the final criterion, he did not know. He believed every one to be familiar with the work of Jadassohn in connection with nevi. That writer reported as long ago as thirty years having found mast cells in infantile urticaria pigmentosa. On the other hand, inflammatory cells occurred and nevus cells occurred, and which of the two interpretations in urticaria pigmentosa will be the correct one, the speaker did not know. The isolation of a mast cell here and there was not enough to make a diagnosis of urticaria pigmentosa. He was inclined to think from the fact that the majority of cases of true urticaria pigmentosa occurred very early in infancy, a great many were undoubtedly congenital. It may not be impossible that they recurred temporarily in the sense of nevi. Whether grouping any congenital anomaly of the skin as a nevus was acceptable or not was problematic.

The other type of urticaria pigmentosa he should regard as a latent form of nevus, in the same way we saw nevi developing long after adolescence, in middle and adult life. He only ventured these suggestions because in thinking along these lines, although he accepted none of his ideas as final, we may perhaps in the course of time come to some definite conclusions.

Raynaud regarded nothing as urticaria pigmentosa in which mast cells were not found. This was a good practical working basis to differentiate between the two types of urticaria, the true type and simulating type, and that being the case, he would suggest that instead of using the word urticaria pigmentosa, we accepted the designation of xanthelasmoidea until we had a better one in which mast cells were not found. Pigmented urticaria designated the clinical characteristics.

DR. ENGMAN said that probably the largest group of urticarias, from an etiologic standpoint, was due to the introduction of foreign proteins. These foreign proteins may be introduced in many ways. Various instances were mentioned of urticaria pigmentosa undoubtedly being a distinct disease. There must be generated, at certain points, some chemical substance or agent which stimulated the formation of mast cells, which was the fundamental factor in urticaria pigmentosa. It was interesting to note that at certain periods of life a hormone or some chemical body stimulated the formation of nevi or the formation of groups of cells. He thought Dr. Ormsby's case of cystadenoma which appeared suddenly and then disappeared, some years ago, was a beautiful illustration of such a fact.

Recently the speaker had seen such an illustrative case. A young woman, 20 years old, had a severe illness, with high temperature. In a short time a number of nevi on the body began to grow, and then numerous nevi appeared all over the body, of epithelial origin. They were mostly black moles. There were developed in her body also other changes we saw in connection with the preclimacteric or presenility. We must accept the fact that there may be generated in the body specific chemicals which may act at specific points and produce cells such as we saw in urticaria pigmentosa.

DR. WENDE said that while the cases of which he wished to show photographs did not correspond very closely with those reported, they were two



typical instances. In one the lesions began at the time of birth or soon thereafter, and disappeared at about the time of puberty. In the other case, the cutaneous manifestations began soon after birth and exist today, the lesions covering the entire body. On irritating the skin with some blunt instrument a factitious urticaria was easy to establish and the places would have a beaded appearance. Those of us who were familiar with Dr. Morrow's case knew that that constituted a typical sign in his case.

As to the case of Dr. Ruggles, the speaker had the pleasure of seeing it through his courtesy. It was a remarkable instance of urticaria developing after puberty, at the age of 30. The lesions continued to develop and covered his entire body.

DR. HARTZELL said there could be no doubt about the desirability of an etiologic classification in urticaria, but there were too many things we did not know about its causation to make this possible at the present time. By far the larger number of cases arose from the ingestion of certain food substances, but there were other causes. There was the well-known case of Hebra, in which the introduction of a uterine sound was always followed by an attack. The author had very vividly in mind a case in which emotional disturbance was the exciting cause. The patient was a man who held a very responsible position on a railway and whenever he was overworked or excited he had an attack. He was late in keeping his appointment with the author and was somewhat flustered when he appeared in his office; within a very few minutes he was covered from head to foot with wheals, although entirely free when first seen.

The speaker would have liked to have heard discussed the relationship between the so-called pigmented urticaria and urticaria pigmentosa. A number of cases had been reported in which chronic urticaria had been followed by pigmentation and these were regarded by the reporters as quite distinct from urticaria pigmentosa. The absence or small number of *Mastzellen* had been regarded as a point in differentiating these cases from the latter, but these cells may have been present even in considerable numbers and have disappeared, as had been noted in a few instances. In the photomicrograph presented by the speaker, it was quite evident that many of the *Mastzellen* were disintegrating, and if sections had been made at a later period they would have been altogether absent or present in but small numbers.

# Society Transactions

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## CHICAGO DERMATOLOGICAL SOCIETY

*Regular Meeting, Dec. 19, 1916*

UDO J. WILE, M.D., *President*

### CASE FOR DIAGNOSIS. PRESENTED BY DR. STILLIANS.

The patient was a man, aged 31 years, who had had dermatitis herpetiformis for three years. He had taken arsenic about half the time during that period, taking it for two weeks and then stopping it for two weeks. He had had hyperkeratotic hands for several years and had been advised by Dr. McEwen to stop the arsenic. He had received five autoserum injections, with about the same effect that the arsenic produced. He was supposed to have had syphilis eight years ago and had a positive reaction last spring. Recent Wassermann tests were negative. He had recently had an infiltration on the outer surface of the prepuce which was supposed to be in the same location as the primary lesion of eight years ago.

### DISCUSSION

DR. PUSEY was interested in the palmar dermatosis because of the relative frequency with which such cases occurred. He said this patient had acne on his back and gave a history of the long continued use of arsenic. The keratoses were of the type seen from arsenic and he had felt that they might be of arsenical origin. He had reported at one of these meetings, a year or two ago, a patient who had a sudden development of palmar keratoderma from a very small quantity of arsenic. Much to his surprise, this keratoderma disappeared in the course of a year.

He had had an opportunity of treating a number of cases with autoserum and had given it as indicated by the condition of the patient. He gave the injections until the patient improved and then if there was a recurrence, he returned to the treatment. He gave it without any arsenic and thought it the best thing to do for them. He had two such patients at present; one a worker in a wholesale house and the other a carpenter. They were young men, both greatly reduced in strength and he had kept track of them up to the last few months, when both patients were back at work and in very good shape. He had seen one of the patients recently and he stated that the eruption disappeared within a few days. There was a recurrence in two weeks and after a second injection the eruption cleared up again and he had had no return since.

DR. FOERSTER asked how far apart the doses of autoserum had been given and if the attacks appeared in the intervals.

DR. HARRIS recalled to Dr. Pusey the patient with dermatitis herpetiformis who had taken arsenic and while he was taking the arsenic, developed another attack which cleared up under autoserum. The lesion of the penis did not look like a chancre. It looked to him like a possible granuloma annulare.

DR. McEWEN said that this patient appeared at the clinic about two years ago, with a very decided case of dermatitis herpetiformis, with a history of syphilis and a large number of neosalvarsan injections. At that time he had the hyperkeratosis of the palms and the question arose whether salvarsan could produce it. As he recalled it, the Wassermann at that time was negative. There

was no hyperkeratosis except on the palms. He wished to ask if any of the members had observed cases of hyperkeratosis from the use of salvarsan.

DR. WILE said he had seen two patients who had a pronounced exfoliative dermatitis following salvarsan; one case followed repeated doses of neosalvarsan, the second came after the third dose of old salvarsan.

DR. STILLIANS stated that the man had received five autoserum injections at intervals of a week. The first did not have much effect but the lesions cleared up after the second injection. The patient stated that he had had the keratosis in the palms for nearly three years. He had received twelve injections of neosalvarsan about two years ago.

#### CASE FOR DIAGNOSIS. PRESENTED BY DR. HARRIS.

The patient was a young man, aged 17 years. The latter part of July he noticed a swelling in the parotid gland and about the same time the lower eyelid on the same side became affected. There was a white spot on the mucosa which his physician thought was a sty. A few days later the gland was lanced and pus drained. A discharging sinus continued and about the middle of November the gland was removed. The condition of the eyelid had gradually extended but had recently shown improvement. When the eyelid was everted some small yellow spots were seen to be present. Repeated Wassermann tests had been negative.

#### DISCUSSION

DR. MCEWEN thought that if it was a blastomycosis there would be more destruction of the tissues. He thought the eye lesion was a meibomian cyst.

DR. WAUGH thought of a tuberculosis with some chronic infection mixed with it. He did not consider it a blastomycosis.

DR. HARRIS said that if the lesions could have been seen by daylight it would have been much better. He had considered it a tuberculosis and had taken out two of the brownish spots in one of which he had looked for giant cells. It had popped out in a gelatinous mass, much as a tubercle would do. The spot on the eyelid was painless. Cultures had shown staphylococcus growths.

#### EXFOLIATIVE DERMATITIS OF HANDS AND FEET. PRESENTED BY DR. PUSEY.

The patient was a locomotive engineer who lived under good conditions, but for the last two years had had repeated attacks of exfoliative dermatitis of the hands and feet and some suspicious looking areas on the shoulders. He was constipated but there was nothing else to account for the trouble. The only evidence of food idiosyncrasy was the fact that he could not stand even the sight of cooked tomatoes, although he could eat them raw. This was the third attack. The eruption never occurred over the backs of the hands but was confined to the palms, and had always come on suddenly, with soreness and swelling all over the palms. He had had no medicine to account for the condition. The feet were often more affected than the hands.

#### DISCUSSION

DR. SHAFFNER thought the most interesting thing was the fact that there was a process that could produce such a condition and the fact that it could be produced through drugs, although the man gave no history of taking drugs. The patient stated that it was not preceded by vesicles but that the skin simply peeled off.

DR. WILE thought the case one of erythema exudativum involving the hands, although one should consider exfoliating erythema and an occupational dermatosis, in the differential diagnosis.

DR. HARRIS considered it a multiform erythema and said that would produce a marked hyperemia of the palms which would be sufficient to cause the exfoliation.

DR. McEWEN thought a multiform erythema the most plausible explanation. He thought the feeling of malaise the man mentioned having had at the onset would hardly fit in with an external irritation from oil or coal.

DR. PUSEY did not believe that the patient's occupation was a factor of importance in the eruption. He had thought, in connection with this case, of the cases of recurrent exfoliation of the skin which had been reported by French authorities and also in this country. He thought Dr. Hyde had reported such a case. He believed that could be ruled out in this case, and thought, also, that the case could not be considered an ordinary erythema multiforme, but he did believe it was a case of exudative erythema of toxic origin which in its etiology was the same as erythema multiforme.

#### LINEAR NEVUS. PRESENTED BY DR. SENEAR.

The patient was a man, aged 32 years, who had presented himself for treatment for a linear nevus which had begun about nine years ago. The lesion extended from the crural region to the ankle, forming a linear band which gradually grew narrower and lighter in color as it reached the ankle. It had been burned out below and treated above with some drying agent, the nature of which the patient did not know.

#### DISCUSSION

DR. HARRIS did not like the term nevus which was applied to it. He thought a nevus coming on at this age and running along the course of a nerve would suggest the name that the Germans had supplied, a hyperkeratotic, "strich-formige" eruption.

DR. WILE thought there was a good deal of justification for the application of the term nevus. More particularly can the term nevus be applied to such a lesion because pathologically they were made up of nevus cells. He was sure that if the lesion were examined under a microscope, cells of the nevus type would be found.

#### CHRONIC DERMATITIS OF THE HANDS, WITH ATROPHY. PRESENTED BY DR. STILLIANS.

The patient was a Jewish tailor, aged 35, who had had dermatitis on the hands for many years. Twelve years ago he had received Roentgen-ray treatment for this trouble, with the result that the hands got red and sore. The patient complained a great deal of anorexia, but maintained his weight well. The hands were smaller than normal and there was an apparent contracture. He had not been able to work for a year. The case was presented with the possibility in mind of the atrophy having been the result of the Roentgen-ray irritation.

#### DISCUSSION

DR. SHAFFNER thought some of the atrophy of the muscles could not be accounted for by the condition of the skin and thought that perhaps some nervous lesion (cord) could be considered.

DR. WAUGH was not impressed with it being due to radiotherapy. He could not distinguish any telangiectatic vessels such as one would expect to find if such were the case. He thought it was more like a scleroderma.

DR. HARRIS thought it was easy to explain the atrophy of the muscles as the atrophy of disuse; the man had been able to work only a little during two years and he had at times showed distinct eczema of the palms which extended up the arm. Against the Roentgen ray as a causative agent would be the



fact that the sweat follicles of the skin were still distinctly present, which one would not expect had the Roentgen ray been to blame.

DR. PUSEY thought it was not necessary to consider anything but the chronic condition of the hands to account for the atrophy. He said he had a photograph of a man with a chronic dermatitis of one hand which was due to ringworm. The man had not used the hand for years; there was a contraction and reduction in the size which was strikingly like that in this case.

#### DERMATITIS WITH PIGMENTATION AND DEPIGMENTATION. PRESENTED BY DR. STILLIANS.

A Hungarian carpenter, 44 years old, had a dermatitis beginning on the hands nearly two years previously, extending over the whole body, causing great itching. He noticed the pigmentation ten months after its onset. He presented a chronic dermatitis of the hands and arms with thickening of the skin and some desquamation. The skin of the trunk was slightly thickened and showed a few scratch marks, but was deeply pigmented, with large areas of loss of pigment. Smaller, white areas were present on the backs of the fingers. He had received small doses of dried adrenal gland for several months with only slight improvement and recently small doses of thyroid gland, with no more result.

#### DISCUSSION

DR. HARRIS thought it was a general eczema due to some trouble in the bowel. When the man was first seen he had a generalized dermatitis; the skin was then somewhat scaly but the main thing was the itching. The interesting feature of the case was the pigmentation. He thought he had a so-called auto-intoxication; there were enlarged glands and the man had received no arsenic since he had been under observation.

DR. PUSEY thought the pigmentation was too diffuse and irregular to be due to the adrenal disturbance. He said he had seen a good many cases of pigmentation from adrenal and other tumors in the abdomen but never one as diffuse as that. He did not know what the case was but thought it more reasonable to think of a hyperpigmentation following an extensive chronic dermatitis with the patches of depigmentation, where the process had been so intense that there had been complete throwing off of the epidermis.

DR. MCEWEN thought it was necessary to consider the adrenals as a factor in the cause of the trouble. He said that about a year ago a patient had died in the county hospital with a generalized sarcoma in which the skin lesions were those of vitiligo, which began at the same time as the tumor growth. In that case the adrenals were found to be extensively involved in the sarcomatous process.

DR. FOERSTER thought there should be constitutional disturbances—diarrhea, asthenia, and other indications if the trouble was due to the adrenals, that is, if Addison's disease was in question.

DR. STILLIANS said the man had been in the hospital for some time and had seemed to improve slightly on adrenal gland and later on thyroid gland, but whether the improvement was due to the glandular substance or to external applications he was not sure. He had been much interested in the vitiligo as possibly connected in some way with adrenal disturbance.

#### PREMYCOTIC ERUPTION. PRESENTED BY DR. HARRIS.

The patient was the young lady who was shown at the last meeting by Dr. Zeisler, as a premycotic eruption. At the time of the last meeting she showed only the pigmentation but now she showed some definite wheals with vesicles and the areas were all very much pronounced. On the buttocks there was a definite bulla. She had had no sore mouth but the itching was worse

than it had been in recent attacks. This attack was intermenstrual but the others had been just before or immediately after menstruation.

#### DISCUSSION

DR. McEWEN thought the case was one of erythema multiforme.

DR. PUSEY said that when he saw the case at the last meeting he thought it was a beginning mycosis fungoides, but he thought that diagnosis was overthrown by the present condition of the patient. The lesions were much like those of erythema multiforme, but they were present in the same location as before and such persistence was not often seen in erythema multiforme. He considered it a most interesting case, and thought it was some sort of a toxic eruption, but was extraordinary. He said it was not mycosis fungoides as we know it and yet he thought it might possibly go on and still be a mycosis fungoides. The fact that there was such intense itching and that the lesions appeared in the same place each time would bear out this belief. At the previous meeting the lesions were distinctly like those of beginning mycosis fungoides. Many cases of reported mycosis fungoides had undoubtedly been leukemia, but many were not.

DR. HARRIS thought it was recurrent urticaria or erythema multiforme. He said the itching was very severe and the lesions always recurred in the same locations, coming and going within a short time.

DR. WILE thought that cases had been reported of mycosis fungoides which had begun as erythema multiforme.

#### CASE FOR DIAGNOSIS. PRESENTED BY DR. SHAFFNER.

The patient was a young woman, aged 25 years, married. The duration of the trouble was one and one-half years. She stated that she had had a similar attack about three years ago. She complained of considerable itching. The therapeutic and Wassermann tests were negative.

She had a generalized papular eruption with some tendency to grouping, especially around the buttocks and waist line, and there was some tendency toward pigmentation. At times there had been some scaling. The lesions scaled on scratching them with the nails, although it could not be said that scaling was a marked feature of the disease. Some of the lesions had left some scarring and the pigmentation was especially marked about these scars. There were present, in addition, a few small bright red lesions, almost pustular in character, covered by a very fine, acuminate scale.

#### DISCUSSION

DR. WILE favored the diagnosis of pityriasis lichenoides chronica. The lesions were papular and presented a very fine, very persistent scaling. This case was not associated with any distinct atrophy; the atrophy which was present could be easily accounted for by the fact that the patient had scratched some of the lesions and undoubtedly infected them.

DR. McEWEN thought the question of its being a papular tuberculid would have to be considered. He had seen very few cases of pityriasis lichenoides and in those the lesions had been larger. Some of these lesions looked as if they had been produced by scratching; some of them seemed to be fresh. He thought the case should be thoroughly investigated as to a tuberculous focus.

DR. WAUGH considered it more like a tuberculid than anything else. Some of the lesions had a depressed center and would in all probability leave scars.

DR. HARRIS thought it was a tuberculid with a central atrophy and a surrounding pigmentation. He thought some of the lesions appeared as if due to scratching. He believed the history of it coming out in crops would speak for it and the distribution would not speak against it.

DR. FOERSTER considered the case one of pityriasis lichenoides chronica. He said he had shown a well developed instance of this condition several years ago, in which the lesions came out in crops of small papules, preceded by itching, which was the history given by this girl. Considerable adherent scaling developed and then the lesions faded away with pigmentation remaining, so that one got the picture of recent lesions, scale or crust formation (scratching) and stain. The distribution was similar to that observed in Dr. Shaffner's patient. In determining the diagnosis, pityriasis lichenoides chronica should not be left out of consideration.

DR. PUSEY considered the case a tuberculid.

DR. WILE still thought it was a case of pityriasis lichenoides chronica. He had seen two cases which were almost identical and would like to suggest to Dr. Shaffner that a tuberculin test be given to see whether there was any local reaction. Secondly, he would suggest that one of the lesions in which there was a suggestion of central necrosis be excised and examined to determine whether the picture was one of tuberculid. He thought a biopsy would rule out the tuberculid.

#### CASE FOR DIAGNOSIS. PRESENTED BY DR. LIEBERTHAL.

The patient was a colored man, of 45 years. The affection began twelve to thirteen years ago as a small, red spot on the right hand and gradually spread all over the dorsum, with intense pigmentation and subsequent gradual depigmentation. The right dorsum became affected in a similar manner about six years ago. The palms of the hands became lighter in color and hyperkeratotic, five to six years ago. The clinical examination showed the rest of the integument and mucous membranes unimpaired. Within the intensely pigmented areas of the dorsa were found islands of papillary elevations. There was slight itching. The sensations of the skin and perspiration were normal. The patient had not been taking arsenic, but had used mercury externally and received injections seven or eight years ago.

#### DISCUSSION

DR. McEWEN thought the lesions looked like the result of the ingestion of arsenic and as the patient said he had had no arsenic it might be that he had been under the influence of arsenic without knowing it.

DR. HARRIS thought the principle thing of interest was the infiltrated, red border which was very noticeable on the right hand. He had thought of syphilis but the history was against it. He thought there was a distinct atrophy, for when the man held out his hand the skin wrinkled as an atrophic skin would wrinkle. He thought it was a case of lupus erythematosus.

DRS. WILE, PUSEY AND McEWEN considered it a case of lupus erythematosus.

DR. LIEBERTHAL would not venture a diagnosis until he had made bioscopic and general examinations. The absence of atrophy and purely hypertrophic lesions spoke against lupus erythematosus; however, there might be a double process. In case of arsenical dermatitis there should have been expected keratosis of the feet and pigmented spots on other parts of the body. Although not offering it as a diagnosis, yet acanthosis nigricans might be mentioned, as also occurring on the hands, if hyperpigmentation and papillary hypertrophy be considered. The speaker said he would make a more thorough examination of the patient and demonstrate him at a future meeting.



## MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, Dec. 8, 1916*FRED WISE, M.D., *Chairman*

## PERFORATING ULCERS OF THE FEET. PRESENTED BY DR. ROSEN.

Mrs. F. B., 40 years of age; married; two children living; one miscarriage; No history of syphilitic infection; from Dr. Fordyce's clinic. About seven years ago an ulcer developed on the plantar surface of the left foot, involving the second toe. This increased in size and depth, and after consulting several surgeons she was advised to have the toe amputated. This was done. About two years later another ulcer formed on the plantar surface of the same foot, opposite the third and fourth toes. This gradually increased in size and depth. It was not very painful but would annoy her very much in walking.

On examination there was an ulcer about the size of a five-cent piece, conical in shape and edges inverted. Radiating from this ulceration were two fissures about one inch in length and one-half inch in depth. On probing the ulcer the instrument penetrated about one inch and no bone could be felt. On the plantar surface of the right foot, opposite the third and fourth toes, were two fissures similar in character to the ones on the left foot. The general examination of this patient revealed symptoms of tabes dorsalis, with the lesion high up in the cord. The pupils were contracted and reacted very sluggishly to light and accommodation. All her superficial and deep reflexes were very much inhibited, and were only present on reinforcement. There was a slight Romberg and no ataxia. The Wassermann test of her blood serum was four plus. Spinal fluid examination, Wassermann four plus. Lymphocytes, 11; globulin, two plus, and the gold sol. test, 222211111.

## DISCUSSION

DR. GOTTHEIL said in such cases there was always a bone lesion, either an osteitis or periostitis. He had seen it occur in Kaposi's sarcoma, leprosy and various central affections. In a real atrophic ulcer there had to be a sinus going down to the bone and periosteum.

DR. WISE said an orthopedic surgeon told him that cases of this type could be relieved by making plates for the feet and preventing pressure over the areas of ulceration.

## FOLLICULITIS DECALVANS. PRESENTED BY DR. GEORGE H. FOX.

The patient was a male adult, from Havana, Cuba. The disease was of two years' standing. The speaker at first glance agreed with a diagnosis of alopecia areata, which had been made, but on looking more carefully, he found patches of a different character. There was some redness of the skin due to carbolic acid, which had been applied. There were no hairs with atrophied "exclamation point" roots. The patches were not large and irregular in size as in alopecia areata, but were all small and grouped in a certain area on the crown of the head. This was not a neurotic affection, but an inflammatory condition. It was a mild form of folliculitis decalvans or what had been termed alopecia cicatrisata. Instead of there being bald patches of soft skin from which the hair had fallen out, there was here an inflammatory condition, which had developed gradually in the last two years. There had probably been first redness of the scalp and later an inflammation around the follicles, which destroyed the hair. The patches were not the smooth white ones of alopecia areata but were of an atrophic or cicatricial character. One or two of the marginal hairs had been pulled out with the sheath attached to the root.



## DISCUSSION

DR. GEORGE H. FOX said in answer to a question, that *pélade* was the French name for alopecia areata, but pseudo-*pélade* was an inflammatory condition, a folliculitis, in which there was marked resemblance to ordinary alopecia areata as in the case presented. There was often some redness of the skin with inflammation around the follicles and a gradual and permanent loss of hair. There were three diseases which might all be included in folliculitis. First, alopecia cicatrisata, described by Crocker (the pseudo-*pélade* of Brocq), which showed multiple smooth patches, which seemed to be atrophic. Second, the typical folliculitis decalvans, in which there was plugging of the hair follicles in groups, with resulting loss of the hair and a most characteristic cicatricial alopecia. Third, a condition described by Unna as *ulerythema sycosiforme*, apt to occur on the cheeks and sometimes called lupoid sycosis.

SPONTANEOUS INVOLUTION OF AN ANGIOMA. PRESENTED BY  
DR. BECHET.

The parents of this female child, aged 20 months, stated that they had noticed shortly after birth, two small nevroid spots, one on the right upper eyelid and the other on the right temporal region. These spots gradually grew larger, met to form a single mass, and growing slowly, assumed the appearance observed by the speaker when the child was first seen, on May 20, 1915. It was then three months old. Involving the entire right eye, frontal and temporal regions, was an enormous angiomatous mass, several inches in diameter and greatly raised above the adjoining healthy skin surface. The lesion was particularly striking because of its size and extent. The eye was entirely closed and filled with pus; it could hardly be retracted, the conjunctivæ were greatly injected and the eye seemed to be in an alarming condition. Here and there through the mass were evidences of ulceration and spontaneous involution. An eye wash and a boric acid salve were prescribed. The case was seen once again a week later, and there was no perceptible change. The parents were advised to do nothing except keep the lesion clean. On Dec. 2, 1916, nineteen months later, the child was seen again; in the interval nothing at all had been done. The remarkable improvement in the lesion was at once noticed; it had almost entirely disappeared; only slight remains at its lower margin were noted and there was also some moderate telangiectasia. The scar was soft and pliable and the cosmetic result apparently excellent. The case demonstrated the value of non-interference in these large angiomas when involution through thrombosis and ulceration apparently had already begun.

## DISCUSSION

DR. OCHS said that some time ago he showed two cases of cavernous angioma, in which he had applied the solid carbon dioxid snow. At that time Dr. MacKee made the remark that sooner or later many of these cases healed spontaneously and especially so, if traumatism or any ulceration took place. This case of Dr. Bechet's proved that remark exactly. The speaker had seen one or two cases react, but not as thoroughly as had Dr. Bechet's and thought it was due entirely to an infection.

DR. HOWARD FOX said that the question of the spontaneous cure of angiomas nevus had been previously discussed by Drs. Kingsbury and MacKee and himself. He wished to emphasize the probability of spontaneous cure in most cases of the elevated type of angiomatous nevus as opposed to the ordinary port wine mark which persisted indefinitely unless treated.

DR. GEORGE H. FOX said that as spontaneous thrombosis with or without resulting ulceration, could cure this lesion, why should they not treat these lesions and simply assist nature, producing the same result and saving time?

DR. GEYSER said he was very glad that point had been raised. He had written at least a dozen articles, in which he had stated that it was not the

result of the agent, but the reaction of the living tissue to the agent. It made no difference how the reaction was brought about, whether by injury, trauma or infection, it was the reaction of the cells to an agent.

MORPHEA TREATED BY THYROID EXTRACT. PRESENTED BY DR. WEISS.

The patient was a female adult, who was shown at the October, 1915, meeting, and who presented on the forehead a cured lesion of morphea consisting of a band-like, hard, elevated, violaceous skin infiltration, extending from the root of the nose, diagonally over the right side of the forehead and scalp. When the speaker first tried the thyroid treatment it met with little response as the patient was negligent. When he finally persuaded the patient to take the drug regularly, results were obtained and within three months the morphea disappeared entirely. The patient exhibited symptoms of thyroid insufficiency, as heavy, edematous eyelids, dry skin, puffiness of the face, increase of weight, slow pulse, fatigue, premature thinning of the hair, amenorrhea, etc. The study of the anthropological marking gave the indications for the drug.

DISCUSSION

DR. HOWARD FOX said the Society was certainly indebted to Dr. Weiss for showing such an extraordinary result. He had recently heard of Dr. Johnston's success with pituitary extract and Dr. Wallhauser's success with solid carbon dioxid snow in the treatment of scleroderma. He had formerly considered the treatment of this disease practically hopeless.

DR. SATENSTEIN said that when thyroid preparations were given, the patient's general condition was generally overlooked. The dose, in most instances, was either too small or too large. The object of exhibition of thyroid preparations was to either ease the strain on the overworked gland or to take the place of the glandular secretion, when the gland was insufficient. If too large a dose was given the clinical results desired were rarely obtained, as there resulted an increased oxidation, the tissues, as it were, burnt away, and the gland stimulated often to the point of exhaustion. If too small, the insufficient gland was not much assisted. The insufficiency as usually seen, was often very slight, and small doses of the thyroid preparations sufficed. That was one of the reasons, the speaker believed, why the excellent clinical results by one-third of a grain of thyroid extract daily was obtained by Dr. Weiss in the case he presented.

DR. BECHET said that in the discussion of the treatment of morphea, it might be of interest to report the very good results he had had with the electric needle in the treatment of a small patch about the size of a five-cent piece, on the end of the nose. When last seen a year after the last treatment, the patch had almost disappeared. Nothing internally had been given.

DR. ABRAHAMS said he remembered the case very well and that he had suggested treating the patient with thyroid extract. He noted the remarkable change of opinion which the members of the Society had undergone since this patient was first presented, when they said with one accord that thyroid extract was not indicated. When the Society was organized he presented a man about 50 years of age, the father of a New York physician, who had had a scleroderma which was absolutely cured with thyroid extract. They might accomplish the same results in scleroderma that they could in morphea. The speaker did not think they would always get results the same as Dr. Weiss' with small doses and every patient ought to be studied with reference to thyroid extract. Whether for morphea or scleroderma, these patients had a susceptibility to thyroid and they would immediately get a response from the heart, which became rapid, some after small doses of one-eighth grain and some would not, unless given five grains, and to lay down a rule for which there was no exception, would, he thought, in the greatest majority of cases, do no good. Another

thing the speaker would suggest in giving thyroid extract, one should never fail to combine it with strychnin, that it was a very important combination.

DR. GEYSER said he used to give one-fourth grain of thyroid extract where he now gave one-fiftieth and thought they got better results with one two-hundredth grain than one-fourth. This was far better than one-fourth grain doses in all cases where it had been indicated.

DR. WEISS said he was sorry to differ with Dr. Geyser's statement, as applied to all cases. Where there was a total ablation of the thyroid gland, one must feed it fifteen and twenty grains a day and if one did not, the patient would have myxedema as long as he lived.

DR. GEYSER said he had a case of cretinism which came from Long Island, in which doctors had assured the parents of the patient that nothing could be done. The child had been treated with one-fourth grain of thyroid and he gave one two-hundredth grain a day. The patient now conversed with everybody and had improved in only four weeks' time.

DR. SATENSTEIN said the question of dosage of thyroid preparations was based on the underlying principle of equilibrium of metabolism. This was admirably seen when iodides were given. As soon as this equilibrium was passed, iodism set in. The practice of giving larger doses at this time was only to further stimulate the gland to the point of exhaustion and symptoms of insufficiency set in. The same applied to thyroid preparations. When the proper dose was exhibited, the gland was assisted to reestablish the normal equilibrium of metabolism, and clinical results, sometimes surprising, were obtained. But when large doses were given, no results were noticed and the patient's condition very often was aggravated. Thus in morphea with symptoms of thyroid instability and not those of marked insufficiency, small doses were sufficient, but in myxedema with manifestations of almost complete insufficiency, large doses were necessary. Indications for the proper endocrine gland therapy were often overlooked, as only the clinical condition for which the patient presented herself was noted. This, as a rule was only the end result of disturbances of the entire system. If the general condition of the patient was thoroughly investigated and the so-called markings of the individual noticed, proper combinations would be indicated and good clinical results obtained. That was the reason why thyroid extract in Dr. Weiss' case did the work and the pituitary extract in Dr. Johnston's case of morphea. This was also seen in psoriasis; some did well and others were not at all influenced by thyroid therapy.

DR. WISE asked whether in all cases of morphea and localized scleroderma the patients presented other symptoms of thyroid disorder than the skin lesion.

DR. MACKEE wanted to know how one could tell where thyroid extract or some other gland was indicated.

DR. WEISS, referring to Dr. MacKee's question, said he would try to answer it. Before attempting to treat a case with the extracts of the ductless glands, one must first take due notice of the anthropological markings of the patient. Everybody exhibited one or more of them. They were the trademarks, as it were, under which our bodies were consigned for this life's journey. We had to observe the color of the skin and hair, the growth, the development of the different parts of the body, the distribution of the hair and the skin reaction. We had to determine the genesis of symptoms, the time and onset and the character and combination of symptoms. We had to know the functional enunciations of the ductless glands, their interrelations, their disbalance, singly and in combination. We must try to get, if possible, the prenatal history and the history of childhood. We would find, for instance, that with thyroidal insufficiency there was a history of measles, because measles damaged the thyroid, just as diphtheria damaged the adrenals. This explained the frequently observed sudden deaths in diphtheria. These were only a few instances



of how to act logically and not in a haphazard way. It was constitutional, medical and pathologic physiology we had to study. The postmortem findings did not reveal the slight disturbances which took place in vivo. Devoted study, unbiased attitude, and at the same time avoidance of over-enthusiasm would pave the somewhat arduous path for an intelligent understanding of the endocrine system and its great influence on the economy. This patient, who was cured of her morphea on the forehead and scalp by the administration of thyroid extract, had extensive subthyroidal markings. Here the substitution therapy was bound to be successful.

DR. MACKEE asked whether, as a result of Dr. Weiss' remarks, it might be inferred that lack of function of the pituitary and thyroid might be the etiologic factors in the production of scleroderma and morphea.

DR. WEISS said he was not prepared to say whether lack of function of the thyroid and pituitary was the etiologic factor in the production of scleroderma and morphea. Among the various causes assigned, thyroid disease, with and without coexisting Graves' disease, had been reported. He believed that a disbalance of the thyroidal function, an instability, as it were, in the sense of a hypofunction as well as of a hyperfunction, may be the causative agent. The administration of the extract had yielded excellent results in cases where hypothyroidism was present.

DR. SATENSTEIN said that the clinician must not expect the glandular preparations would give results every time, in every case. These preparations did not do much good in the presence of intestinal disturbances. They only aggravated the condition. The patient must often be prepared for glandular medication. The physician must not forget that there were many other drugs that had the property of stimulating the ductless glands.

#### MORPHEA OR SCLERODERMA. PRESENTED BY DR. WEISS.

The patient, a female, aged 42 years, had five children, the oldest 17 and the youngest 5 years and had had no miscarriages. She had a history of measles and began to menstruate at the age of 20. She had no headache during menstruation, but had vertigo. Two years previously she started having cold and livid fingers and toes, and ulcerations of the finger ends, which became more and more livid, cold, waxy in appearance and atrophic. She also had a trophic ulcer on the dorsum of the left leg. It impressed one as a case of Raynaud's disease, but there were some symptoms which pointed to scleroderma, especially on the face. Her facial muscles did not depict emotions. They were stiff, expressionless, showing an almost immobile countenance. The case was presented with a double diagnosis of morphea or scleroderma of the face and Raynaud's disease of the fingers and toes. It seemed that the symptoms of the latter disease were a consequence of the scleroderma and the hide-bound condition of the finger tips. The foot exhibited scleroderma and an atrophic ulcer. The lesion had been present three and one-half years, had an indolent character and was very painful. Repeated tests showed Wassermann negative reaction of the blood.

#### ERYTHEMA INDURATUM. PRESENTED BY DR. OCHS.

The patient, a female adult, had been presented before the Society two and one-half years previously. At that time she was presented under the diagnosis of erythema induratum or Bazin's disease and the diagnosis was severely questioned. One of syphilis hereditaria tarda was made. The Wassermann test was repeatedly taken and was always negative and in spite of the fact that she had had several salvarsans and mercurial injections, there was no good result. The condition had lasted some nine years, with the exception of about eight months, when she had comparative rest; the disease had been progressing, healing up in one part and breaking out in others. The lesions started as deep-seated nodules, which quickly raised up, resulting in ulceration. In the



history, as quoted, the father of the patient was suspected of having had syphilis. The only point in which the members differed with the speaker was in regard to two lesions high up on the thigh.

PAPULO-NECROTIC TUBERCULID AND LUPUS ERYTHEMATOSUS. PRESENTED BY DRs. MACKEE AND WISE.

The patient was a female adult, who had been presented as a case of lupus erythematosus of the face and papulo-necrotic tuberculid of the hands, at the last meeting. The tuberculid was then so indistinct that most of the members doubted its existence. It was, however, very marked on presentation and had developed since it was last shown. The lesions were present on the hands and face, presenting numerous necrotic nodules, most marked on the hands.

DISCUSSION

DR. PAROUNAGIAN said he had seen the patient last September in consultation, and that his diagnosis was acne necrotica and lupus erythematosus. She then had a great many discrete necrotic papules on the forehead and face, which had disappeared, leaving the lupus erythematosus lesions more distinct.

DR. BECHET said he had recently presented a case of sarcoid and lupus erythematosus at a meeting of the Academy. The lupus erythematosus lesions affected the face and scalp. The sarcoid tumors were located on the face and upper arms. A larger number of these tuberculids associated with lupus erythematosus seemed to have been reported of late. There might be some truth in the view of the tuberculo-toxic theory as to the causation of lupus erythematosus. It might be possible that the tuberculids, sarcoid, lupus erythematosus, etc., belonged to a group of dermatoses with the same etiologic factor, some atypical, and as yet unknown form of the tubercle bacillus.

LINGUA GEOGRAPHICA. PRESENTED BY DRs. MACKEE AND WISE.

The patient was a small boy, aged 6 years, from Dr. Fordyce's service at the Vanderbilt Clinic. His tongue presented circinate and festoon-like lesions, which affected chiefly the edges, and according to the mother's account, varied in size, location and general appearance, from one week to the next. Treatment had been of no avail. The Wassermann test was negative.

XANTHOMA TUBEROSUM MULTIPLEX. PRESENTED BY DR. PAROUNAGIAN.

The patient, Mrs. D., was a Russian, aged 50 years. None in her family had a similar skin affection. The duration had been about three years. The lesions were symmetrically distributed on the following locations: extensor surfaces of the elbows and knees, on the buttocks, extending to the middle of the thigh, on the dorsal aspect of the left hand and a single lesion on the lower lid of the right eye. The lesions ranged in size from pinhead to bean size; some of them were yellowish or orange in color, some were red with dilated blood vessels and they were firm in consistence. No mucous membrane lesions could be found. The urine examination did not reveal sugar. The elbow lesions were of about three years' duration, the eyelid one year, those on the knees about a year and on the thighs, three months. There were no subjective symptoms.

XANTHOMA TUBEROSUM MULTIPLEX. PRESENTED BY DRs. MACKEE AND WISE.

The patient was a male adult from Dr. Fordyce's clinic, and presented lesions consisting of numerous yellow nodules, isolated and confluent, varying in size from a pinhead to a pea, situated on the palms, elbows, knees and over the Achilles tendons.

## DISCUSSION

DR. SATENSTEIN said that the tissues examined showed evidence of retrogression. The individual cells, filled with fat, could not be noted. There were irregular spaces marking the sites of the xanthoma zone.

DYSIDROSIS. PRESENTED BY DR. WEISS.

The patient, a male adult, exhibited deep seated vesicles on both hands, on the palmar and interdigital surfaces of the fingers, and also on the dorsal surfaces of the hands and legs. The case was an extensive one and the speaker had obtained good results by painting the affected regions with a 20 per cent. solution of nitrate of silver.

INFECTIOUS ECZEMATOID DERMATITIS. PRESENTED BY DR. ROSEN.

The patient, J. S., male, aged 22 years, was from Dr. Fordyce's service at the Vanderbilt Clinic. The history was as follows: For the past fifteen years he had had a purulent otitis media (left side); never had a skin disease of any kind before. Four months ago the auricle of the left ear became edematous and moist and in a few days this condition spread to the other parts of the face. In about two weeks from the onset, the entire face, head, neck, chest and trunk were covered with a weeping, crustaceous eruption, more marked on the head and face. The ear was discharging a thick, purulent fluid, more marked during the past few weeks than ever before.

## DISCUSSION

DR. WALLHAUSER said the subject of infectious eczematoid dermatitis was one of considerable interest, as cases that could be classed under this title were frequently encountered. He had had a case recently, which resulted from an inflamed hemorrhoid, in which a pustular dermatitis gradually developed, involving the crural fold; this was followed by a generalized dermatitis, which presented all the characteristic features of dermatitis exfoliativa generalisata.

DR. SATENSTEIN said that one could readily understand the process of this condition. There was a focal infection with formation of pus and toxins. The toxins were absorbed and sent out in the circulating blood. As long as they remained in the circulation there was no clinical manifestation in the skin. As soon as they were deposited from the terminal vessels to the surrounding tissues, there resulted a reaction similar to the original lesions, at which point the toxin was produced.

ACUMINATE SYPHILID RESEMBLING VARIOLA. PRESENTED BY DRs. HOWARD FOX AND PISKO.

The patient was a negro, aged 25 years. He presented a generalized, acuminate pustular eruption on the trunk and extremities that was very suggestive of smallpox, except that there were practically no lesions on the face and none on the wrists and hands. The eruption had appeared eight days previously. There were three well-marked vaccination scars on the right arm, of five years' duration. In favor of syphilis was the presence of a marked general adenopathy which appeared three weeks ago, and an angina. There was an old scar on the penis, but no evidence of a recent chancre. There was a slight rise in temperature. The Wassermann had not been reported.

## DISCUSSION

DR. OCHS said this case was particularly interesting to him for the reason that he had called up the health department about two years previously in regard to a case quoted before the Society for discussion. He asked whether the health department knew anything new about the diagnosis of variola, and

if so, to communicate it to physicians. The case was that of a man who came to the Harlem Hospital with a pustular infection, affecting the forehead, nape of the neck and down as low as the scapula. He had lesions in the mouth and on the penis. The case was so interesting that the speaker sent the patient to Dr. George Henry Fox for consultation. There the case was seen by four dermatologists and all agreed that it was a case of pustular syphiloderm. Two days later, the man was taken sick and sent to the Harlem Hospital for a physician to treat him at his home. This physician notified the health department. The patient was taken away and reported to be a case of confluent variola, which diagnosis the speaker never accepted. Later, the man returned to the Harlem Hospital and the blood test then made showed a four plus Wassermann reaction. Colored people very frequently got pustular syphilodermas which very closely simulated variola. He asked Dr. Fox whether in his case all the lesions came out at once or not, for in his case there had been older and younger lesions at the same time, which would, in Dr. Ochs' opinion, exclude variola. He still adhered to the opinion that in variola there was but one crop, while in syphilis, as in varicella, there were several crops.

D. L. SATENSTEIN, M.D., *Secretary.*

# Review of Dermatology and Syphilis

Under the direction of FRED WISE, M.D., New York

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## BRITISH JOURNAL OF DERMATOLOGY AND SYPHILIS

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Abstracted by ISADORE ROSEN, M.D.

### THE PROPERTIES OF TETRYL (AS AFFECTING THE HUMAN SYSTEM). LUCY CRIPPS, p. 3.

Persons having a moist skin are more affected by tetryl than those whose skins are dry; the sweat being normally alkaline, forms a good solvent. The kinds of tetryl which affect the operators more are the fine powdery form and the large moist, dark colored crystals. Workers accustomed to the taking of alcohol suffer more acutely with the skin eruption.

Tetryl has a destructive effect on the fatty substance contained in the sebaceous secretions, it also produces abdominal symptoms, respiratory symptoms, hemorrhages from the mucous surfaces, headache and giddiness.

The respiratory symptoms are of two types, asthmatic and asphyxial; both types being due to the irritative effects on the bronchi. The causal factors of the hemorrhages, headaches and giddiness are still obscure; some observers claim it to be due to the influence of tetryl on the blood pressure.

The skin discoloration is usually the first evidence of tetryl poisoning; this is evidenced by a yellow tinging of the hands, face and neck. The exposed parts are the first to show the discoloration. The face may become swollen and congested, eyelids swollen and conjunctivae congested. Sometimes the patients complain of severe pains in the epigastrium, radiating over the entire abdomen, intermittent in character; nausea and vomiting may also occur. During these severe attacks there is no alteration in the pulse nor any rise of temperature. Some patients complain of difficulty in breathing and severe cough. Other symptoms may be epistaxis, excessive menstruation, and bleeding from the ears. The preventive treatment should consist of a thorough physical examination of all workers, and the exclusion of those with eczematous tendencies, pulmonary or gastric disorders, also persons showing excessive sweat capacity. The skin should be kept dry with powder when at work. The exposed surfaces should be washed in hot water, to which a solvent containing 20 per cent. ammonia has been added. Workers should be advised not to sleep in garments used at work, and to have a daily bath. Milk should be supplied to the operatives before beginning their work.



AN INVESTIGATION INTO THE CAUSE AND PREVENTION OF INDUSTRIAL DISEASES DUE TO TETRYL. WILLIAM L. RUXTON, p. 18.

Ruxton discusses at length the causes and prevention of dermatitis in tetryl workers. His investigations coincide with those of Dr. Lucy Cripps.

A CASE OF NODOSE BROMID ERUPTION IN A BREAST-FED INFANT. E. H. MOLESWORTH, with Comments by A. WHITFIELD, p. 30.

The authors report a case in a ten-months-old baby, who had been entirely breast fed and had taken no drugs. The mother had been taking 30 grains of potassium bromid for three or four months as a sleeping draught. The lesions were crusted and granulomatous. The pulse and temperature were normal. The lesions gradually disappeared about six weeks after the mother had given up taking the drug.

A CASE OF TINEA TONSURANS (MICROSPORON) IN AN ADULT. W. JENKINS OLIVER, p. 34.

A CASE OF LEUKOCYTHEMIA CUTIS. H. BATTY SHAW AND D. LOUGHLIN, p. 36.

The authors report a case in a man aged 37, who was admitted into the University College Hospital on Aug. 22, 1917. On examination, he was found to be febrile, the temperature reaching 102° F., the pulse was increased, and the patient looked ill. One's first impression on superficial examination was that it was a case of leprosy, for his face had rather a typical leonine expression.

Scattered over the face, forehead, neck, chest, trunk, thighs and legs were numerous soft, fleshy tumors, some of them purple in color, others red or pale pink, one or two of them showing superficial ulceration. The skin over the entire body showed a brownish pigmentation. There were subconjunctival hemorrhages in both eyes, the feet were edematous, there was no pruritus. There was enlargement of the inguinal glands, the spleen and liver were not palpable. The patient's memory was impaired, but no physical signs of disease of the nervous system could be made out.

Examination of the blood was made on five different occasions; on admission, the red cells were 830,000, and had increased to 1,800,000. The white cells ranged from 3,000 to 6,200. The red cells showed vacuolization and poikilocytosis. Macrocytes and microcytes were seen occasionally.

The diagnosis of leukocythemia cutis was made on the blood picture, which showed a severe secondary anemia, without the classical signs of pernicious anemia, and a qualitative change in the leukocyte picture. Similar skin changes have been reported by other authors.

A CASE OF LYMPHADENOMA WITH CUTANEOUS LESIONS. DUDLEY CORBETT, p. 42.

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PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

(May, 1917, 10, No. 7)

Abstracted by W. H. Guy, M.D.

TREATMENT OF SCABIES BY SULPHUR FUMIGATION. JOHN BRUCE, p. 89.

After a thorough hot bath, affected soldiers are placed in bath cabinets and the body exposed to sulphur vapor supplied by ordinary sulphur candles for from forty to fifty minutes, the clothing being steam sterilized separately. Thus

many patients are treated at one time and cured by a single treatment, four hours after which they are allowed to return to their units.

XANTHO-ERYTHRODERMIA PERSTANS. J. L. BUNCH, p. 96.

During discussion of this case it was suggested that parapsoriasis in plaques would be a better name for the condition.

FOLLICULAR KERATOSIS (LICHEN SPINULOSIS). J. H. SEQUEIRA, p. 97.

Report of two cases.

CHEIROPOMPHOLYX. S. E. DORE, p. 99.

A case report.

LUPUS ERYTHEMATOSUS. E. G. GRAHAM LITTLE, p. 100.

Report of two cases of unusual extent.

DERMATITIS HERPETIFORMIS. E. G. GRAHAM LITTLE, p. 103.

A case of the hydroa gestationis type. Dr. Pringle stated that further pregnancies should be avoided, the disease showing a tendency to aggravation with each succeeding gestation and finally ending fatally.

SYRINGOMYELIA. GEORGE PERNET, p. 105.

A case report.

TUBERCULOSIS CUTIS AND PHTHISIS. KNOWSLEY SIBLEY, p. 110.

Apical phthisis preceded tuberculosis verrucosa cutis of the left hand in this case.

## ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE

(January, 1916)

Abstracted by PAUL E. BECHET, M.D.

A NEW CONTRIBUTION TO THE STUDY OF GEOMETRICAL PHAGEDENA. L. BROcq, p. 1.

Brocq concludes from his studies, that in the large group of phagedenic diseases, a special form clinically different from the other forms, should be set aside as a clinical entity. It develops on an antedating erosion or ulceration, either of an ethymatous, chancrous or syphilitic nature. It is characterized by circles or ovals, areas of ulceration, absolutely geometrical in appearance. The borders are raised and infiltrated, their walls are either clearly cut or at an angle. The floor is filled with small abscesses, giving it a spongy appearance. Occasionally the borders are undermined with pus. The peripheral zone of infiltration is of a bright red color and from 4 to 15 mm. in extent. The lesion extends peripherally, and seems to be caused by some special pathogenic organism which has not yet been isolated. Geometric phagedenism develops most frequently on an antedating syphilitic lesion. Therapeutically, Brocq recommends excision, hot air, thermocautery, and applications of methylene blue, balsam of Peru or collargol.

INVASION OF PUBIC REGION BY PEDICULI CAPITIS. NICHOLAS AND MASSIA, p. 40.

Report of a case.

## ANNALES DES MALADIES VENERIENNES

(May, 1917, 12, No. 5)

Abstracted by PAUL E. BECHET, M.D.

## A FAMILY OF HEREDO-SYPHILITICS; FIVE CASES OF APPENDICITIS AMONG EIGHT CHILDREN. GAUCHER, p. 257.

Gaucher reports five cases of appendicitis among eight heredo-syphilitics. He believes that appendicitis is of syphilitic origin.

## REPORT OF THE MEASURES TAKEN AGAINST THE EXTENSION OF SYPHILIS. GAUCHER, p. 262.

This is not an original article, but a discussion of articles recommended by a committee for adoption by the French Academy of Medicine, of which committee Gaucher was secretary. In discussing the subject he brings out the very interesting fact of the mistaken diagnoses of military surgeons in matters dermatologic. He reports a soldier who had been recommended to the auxiliary service on account of a syphilitic lesion, which he found on examination to be a simple erythrasma. He relates an instance of a scabetic, who had been treated for over a year, invalidated to four different hospitals for three months, placed on a milk diet, baths, etc., as the disease was thought to have been due to a preserved meat diet. Gaucher does not mention the gratitude of the patient after his first sulphur rub.

## SYPHILITIC EPILEPSY. LEVY-BING AND GERBAY, p. 265.

Levy-Bing and Gerbay believe that epilepsy is a syndrome, in which acquired or hereditary syphilis is a frequent cause. Syphilitic epilepsy is frequently complicated with cerebral phenomena such as paresis, paralysis, loss of memory, changes in character, etc. Consciousness is not entirely lost, the attack is usually of the Jacksonian type. Abolition of the reflexes, and Argyll's sign, are of great value in the diagnosis. Lymphocytosis of the cerebrospinal fluid, and a positive Wassermann reaction are also of value. It most frequently occurs in the late secondary and tertiary periods. It is important to recognize the specific element in syphilitic epilepsy, as the disease is curable, provided it does not occur as an ultimate phase of cerebral syphilis.

## KERATOSIS BLENNORRAGICA. MONTPELLIER, p. 309.

Report of a case.

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## REVISTA ESPAÑOLA DE UROLOGIA Y DERMATOLOGIA

(March, 1917, 19, No. 219)

Abstracted by VINCENTE PARDO, M.D.

## THE TECHNIC OF THE QUANTITATIVE WASSERMANN TEST.

L. DEL PORTILLO, p. 121.

The original Wassermann reaction is a qualitative test, a constant amount of patient's serum being added to a constant amount of antigen. Portillo states that a quantitative test, varying the amount of patient's serum, gives a more accurate result; he employs four tubes for the test, placing in each one progressively increasing quantities of serum. The test would detect the slightest trace of syphilitic antibodies, and the doubtful reactions would be reduced to a minimum.

## BULLETIN OF THE JOHNS HOPKINS HOSPITAL

*(May, 1917, 28, No. 315)*

Abstracted by R. C. JAMIESON, M.D.

THE MECHANISM AND CLINICAL SIGNIFICANCE OF ANAPHYLACTIC AND PSEUDO-ANAPHYLACTIC SKIN REACTIONS.  
JOHN A. KOLMER, p. 163.

Skin reactions are divided into three classes: specific, anaphylactic, nonspecific and traumatic reactions; either one of the last two, however, sometimes occur at the same time as a specific anaphylactic reaction and are also frequently mistaken for a true reaction. This is more likely to happen when the intracutaneous method is employed, although the latter method is more delicate in its readings.

In the case of traumatic and nonspecific reactions, the result may be due to trauma itself, the injection of an irritant or a toxin, or the production of a protein poison by the action of nonspecific proteolytic ferments on the protein of the patient's serum, cells or injected protein.

A specific reaction is due to interaction of a specific anaphylactic antibody and specific anaphylactogen, forming an irritant capable of producing acute hypermia, edema and leukocytic infiltration of the skin.

In general, it may be said that the degree of hypersensitiveness is indicated by the severity of the reaction, but cutaneous anaphylaxis to a bacterial protein does not indicate an immunity to the living organism.

Care should be exercised not to confuse a nonspecific with a true anaphylactic reaction as any protein substance can cause a nonspecific reaction if sufficient quantity is injected.

## AMERICAN JOURNAL OF THE MEDICAL SCIENCES

*(May, 1917, 153, No. 5)*

Abstracted by R. C. JAMIESON, M.D.

FOCAL SEPSIS IN THE GENITO-URINARY TRACT AS A  
CAUSE OF CONSTITUTIONAL DISEASE. THOS. F. REILLY, p.  
701.

Attention is called to the fact that in addition to disorders of the genito-urinary tract following gonorrhea, remote conditions may occur which do not respond to treatment until the focus of infection is removed from the genital tract.

Mention is made of pyorrhea due to vesiculitis, synovitis, arthritis, pleurisy, endocarditis, etc., as well as a punctate, papular eruption which appeared on a patient who received no medication but salol. The Wassermann test was negative. The eruption disappeared in two weeks, following three injections of antigonococcic serum. Another similar case was reported in which the roseola persisted in spite of treatment and disappeared only after vasopuncture and treatment of the seminal vesicles.

## ARCHIVES OF INTERNAL MEDICINE

*(May, 1917, 14, No. 5)*

Abstracted by R. C. JAMIESON, M.D.

AN EXPERIMENTAL TEST OF THE RELATION OF SEWAGE  
DISPOSAL TO THE SPREAD OF PELLAGRA. J. F. SILER, P.  
E. GARRISON, AND W. J. MACNEAL, p. 683.

In the fall of 1913, a water carriage sewer system was installed in Spartan Mills, S.C., and for the years following, new cases became progressively less.



The changes in diet and general prosperity are given credit for some of the decrease in new cases, although in 1916 there were only two new cases, the financial situation being better than in 1914.

The authors recommended installation of sanitary systems of sewage disposal as a means to prevent the spread of pellagra and restrict recurrences.

THE INFLUENCE OF THE RADIATIONS FROM KROMAYER'S  
MERCURY QUARTZ LAMP ON THE CEREBRAL CORTEX.  
H. WAGO, p. 801.

Rabbits were used and their brains radiated through trephined openings for 10, 20, 30 and 60 minutes, with the result that the cortex was affected by the ultraviolet rays in proportion to the time of radiation, the injury to the nerve cells varying from swelling and atrophy to the more destructive changes and death of the cell. Older rabbits were more resistant than the young. The neurofibrils showed no pathologic change, but it was thought that some degeneration had occurred on account of the retrogressive processes in the nerve cells.

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JOURNAL OF LABORATORY AND CLINICAL MEDICINE

(*March, 1917, 2, No. 9*)

Abstracted by OSCAR L. LEVIN, M.D.

THE EFFECT OF CERTAIN DRUGS ON SKIN REACTIONS.

JOHN A. KOLMER, SAMUEL L. IMMERMAN, TOITSU MATSUNAMI, CHARLES M. MONTGOMERY, p. 401.

1. The iodids and particularly potassium iodid were found to influence the luetin and prodigiosin intracutaneous tests to a marked extent. Normal nonsyphilitic persons, reacting negatively to the luetin test, may show marked reactions when tested after the oral administration of 60 or more grains of potassium iodid.

2. The bromids of potassium and sodium in the same dosage were found to have a similar, but less marked influence.

3. The chlorids of potassium and ammonium in the same dosage were found to influence the prodigiosin reactions, but not the luetin reactions, except to a very slight extent.

4. The administration of the protiodid of mercury influenced the luetin reaction to some extent.

5. It is probable that the administration of larger doses of these drugs would exert a more marked influence on skin reactions.

6. Ether and chloroform anesthesia did not appear to influence skin reactions.

7. Substances most likely to excite inflammatory reactions in the skin appear to be most readily influenced by the iodids and to some extent by bromids; intracutaneous tests of agar-agar, prodigiosin and ordinary luetin were more readily influenced by these drugs than the reactions following the injection of a luetin of washed spirochetes and free of culture medium.

8. Cutaneous tests are not as readily influenced by these drugs as intracutaneous tests.

9. Conjunctival tests among normal rabbits made with tuberculin apparently were without effect.

10. Cutaneous and intracutaneous reactions of tuberculin among persons reacting positively to both, appear to be rendered more extensive by potassium iodid and to a lesser extent, by potassium bromid.

11. Anaphylactic reactions to luetin in syphilitic persons appear to be rendered more extensive by potassium iodid and potassium bromid.

12. The oral administration of potassium iodid and to a lesser extent, of potassium bromid, increased the phagocytic power of the blood serum for *B. prodigiosis*; the increased severity of skin reactions in persons taking these drugs may be due to heightened leukocytic infiltration and phagocytosis about the injected material, or to an increase of tryptic activity through the saturation of fatty acid radicals, according to the hypothesis of Jobling and Petersen.

13. Physicians should very carefully rule out the possible influence of these drugs before conducting skin reactions.

14. It is probable that these drugs have influenced the luetin reactions as clinically applied and have been responsible in part for the divergent results observed and reported.

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## HOSPITAL BULLETIN, DEPARTMENT OF PUBLIC CHARITIES OF THE CITY OF NEW YORK

(April, 1917, 1, No. 3)

Abstracted by OSCAR L. LEVIN, M.D.

### THE DIAGNOSIS AND GENERAL TREATMENT OF SYPHILIS. JOHN A. FORDYCE, p. 110.

The fate of the syphilitic individual depends on the early diagnosis of the infection and the intensity with which treatment is carried out in the first six months. The dark field is of value in corroborating the diagnosis of a genital or extragenital chancre and should be employed to determine the possibility of a coincident infection with the *Treponema pallidum*.

The Wassermann test is of value in diagnosis, as a guide to the effect of treatment, and as a criterion of cure. It is of special value in all conditions of obscure etiology referable to the cardiovascular system, cerebrospinal system, or viscera in which syphilis might be a factor, and in cases with an indefinite clinical picture, such as neurasthenia, febrile attacks, etc.

The spinal fluid should be examined for a Wassermann test, a colloidal gold chlorid test, its cytology and its chemistry. The examination of the spinal fluid enables us to determine the activity of the syphilitic process in the brain or cord, to distinguish the various pathological types affecting the central nervous system, and in many cases to distinguish between these and nonsyphilitic processes. Its chief usefulness lies in distinguishing true paresis from types of cerebrospinal syphilis which simulated it and in diagnosing incipient cases before the clinical syndrome is established.

It is possible to cure syphilis when discovered in its primary stage with a negative Wassermann test. Eight to ten salvarsan injections should be administered, followed by mercury for six months.

Several injections of a soluble mercury should precede the administration of salvarsan in secondary syphilis with a beginning eruption and a positive Wassermann reaction. The most frequent early symptoms of involvement of the nervous system are irregularity of the pupils, persistent headache, optic neuritis, and auditory disturbance.

In latent syphilis with a positive Wassermann test an investigation should be made of the cardiovascular and of the nervous system, or of previous involvement of any of the viscera. In tertiary syphilis with a persistent positive Wassermann test without involvement of the nervous system, the beneficial effects of potassium iodid cannot be too strongly insisted on.

The criteria of a cure are a negative Wassermann reaction for at least a year, continuing so after a provocative injection of salvarsan, and a normal spinal fluid.

The paper is accompanied with descriptions of cases illustrating the various points made.

PELLAGRA. ALFRED POTTER, p. 130.

The case is reported because of the rarity of this disease in New York State. The patient was a white woman, aged 55, born in Brooklyn, of Irish descent, and lived in Brooklyn all her life.

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## BOSTON MEDICAL AND SURGICAL JOURNAL

(March 19, 1917, 176, No. 11)

Abstracted by OSCAR L. LEVIN, M.D.

### PULMONARY SYPHILIS; WITH THE REPORT OF A PROBABLE CASE. CADIS PHIPPS, p. 390.

The typical lesion of pulmonary syphilis is a fibrous interstitial pneumonia extending along the bronchi and, less often, caseous pneumonia and gummata.

The symptoms of pulmonary syphilis are essentially those of pulmonary tuberculosis except that they are usually less pronounced. A history of syphilis, the presence of other syphilitic lesions, a positive Wassermann reaction, and the absence of tubercle bacilli in the sputum corroborate a diagnosis of pulmonary syphilis.

The case reported is that of a man, aged 31, who presented the history and physical signs of an advanced case of pulmonary tuberculosis. Because of the presence of a positive Wassermann reaction and cerebral symptoms the patient was given mercury and iodids. Rapid improvement occurred under this form of treatment, and as tubercle bacilli were not found in the sputum, the diagnosis of pulmonary syphilis was made.

(*Ibidem*, May 31, 1917, 176, No. 22)

### THE USE OF RADIUM IN THE TREATMENT OF CUTANEOUS EPITHELIOMA AND KERATOSIS. FREDERICK S. BURNS, AND J. HARPER BLAISDELL, p. 774.

Twenty-two cases of epithelioma and keratosis in the author's private practice were cured by applications of radium. Radium treatment is recommended for epitheliomas occurring about the nose and eyelids, when surgery is difficult and the results deforming. An advantage over Roentgen-ray therapy is the accuracy of dosage and the greater margin of safety.

(*Ibidem*, May 24, 1917, 76, No. 21)

### OBSERVATIONS ON MEASLES. D. M. LEWIS, p. 724.

As a result of his observations during an epidemic of measles, the author concludes that attempts to control measles must recognize carriers of convalescence. These may be recognized by the inflammatory condition of the mucous membranes of the nose, tongue and throat.

German measles is not a true entity, according to the author. It is either measles or influenza.

(*Ibidem*, July 12, 1917, 67, No. 2)

### CASE OF PERNICIOUS ANEMIA IN A SYPHILITIC TREATED WITH SALVARSAN. LAWSON G. LOWREY, p. 52.

## CANADIAN PRACTITIONER AND REVIEW

*(April, 1917, 13, No. 4)*

Abstracted by OSCAR L. LEVIN, M.D.

## THE RADIUM TREATMENT OF MALIGNANT DISEASES OF THE LIP AND SKIN. W. H. B. ATKINS, p. 142.

It is recommended that radium should be employed as a prophylactic measure for the removal of persistent lesions of the lip which appear precancerous. Frequently the diagnosis of epithelioma of the mouth and lip is not made until the adjacent lymph nodes are involved and excision is impossible, owing to the extent of the growth and the nature of the tissue involved. In such cases, treatment with radium offers the best results.

As a result of his experience with several hundred cases of cutaneous cancer, the author believes that radium applications constitute the method of choice for the treatment of these lesions. The advantages are the ease of application, the lack of discomfort to the patient, the complete destruction and eradication of the cancer cells, and the excellent cosmetic results.

## AMERICAN MEDICINE

*(March, 1917, 12, No. 3)*

Abstracted by OSCAR L. LEVIN, M.D.

## PELLAGRA. E. M. PERDUE, p. 180.

The author attempts to refute the various theories concerning the cause of pellagra and asserts that there is no analogy between pellagra and beriberi or scurvy. He denies the vitamin theory and states that all researches but those of Profs. Alessandrini and Scala of the Institute of Experimental Hygiene of the University of Rome were not undertaken in good faith. The writer states that these authors explain the correct etiology of the disease in the following statements:

1. Pellagra is a chronic acidosis caused by colloidal silica in drinking water coming from clay soils.

2. Pellagra is a disease strictly localized and contracted only in those regions where the water commonly drunk originates in clay soils.

3. Pellagra has no relation to diet, work, domicile or sanitary environment.

The writer also states that the symptomatology of pellagra agrees in every particular with the toxicology of silica.

Colloidal silica is rendered inert by carbonate alkalis. The carbonates of calcium and magnesium when in excess of the colloidal silica in drinking water will prevent pellagra in those drinking the water regardless of their diet, labor, domicile and sanitary environment. It is suggested that the carbonates be given as an antidote for pellagra.

The prevention of pellagra consists in the drinking of a water of temporary hardness. Wells, springs, reservoirs and basins should be built of limestone and Portland cement. When this is not practical, a small amount of lime should be added to the drinking water.

The treatment of pellagra consists in the substitution of a common hard or limestone water for the pellagrogenic water. In addition, the silica intoxication



may be antidoted by the subcutaneous injection of 1 c.c. of a 10 per cent. solution of neutral sodium citrate, daily, for two weeks and every second day for two to three weeks longer.

(*Ibidem*, April, 1917, 12, No. 4)

DERMATOLOGICAL ASPECTS OF CHRONIC INTESTINAL STASIS. WILLIAM P. CUNNINGHAM, p. 225.

In intestinal stasis, there is a slowing of the stream and a retention of the food in the bowels with consequent putrefaction, and the liberation of toxins which are absorbed and produce disturbances in the various organs. The author theorizes and mentions various cutaneous diseases which are supposedly produced as a result of intestinal stasis; among these are chloasma, leukoderma, alopecia areata, scleroderma, bromidrosis, hyperidrosis, dermatitis, eczema, urticaria and acne. The author also discusses the possibility of pemphigus, mycosis fungoides and acanthosis nigricans being related to the faulty action of the damaged intestine.

In the cure of these conditions, it is suggested that the intestinal stasis be relieved by elimination of nitrogenized foods from the diet, the internal administration of mineral oils, support of the bowels with belts, and operation in severe cases.

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INDIANAPOLIS MEDICAL JOURNAL

(April, 1917, 20, No. 4)

Abstracted by OSCAR L. LEVIN, M.D.

SOME ERYTHEMATA OFTEN WRONGLY DIAGNOSED. F. W. CREGOR, p. 155.

The writer points out the importance of differentiating the drug erythemata, erythema multiforme, erythema nodosum and erythema induratum from other cutaneous diseases and syphilis.

MOLLOSCUM CONTAGIOSUM AND REPORT OF THREE CASES. C. R. STRICKLAND, p. 162.

The symptomatology, pathology and treatment of the disease are described. The cases reported occurred in three children in one family.

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MEDICAL TIMES

(April, 1917, 45, No. 4)

Abstracted by OSCAR L. LEVIN, M.D.

INTRA-ARTERIAL INFUSION OF NEOSALVARSAN FOR THE TREATMENT OF CEREBROSPINAL SYPHILIS. D. A. SINCLAIR, p. 89.

The rationale of this method of treatment depends on the introduction of neosalvarsan into the internal carotid artery, permitting the direct application of the drug to the cerebral tissue and subsequently to the spinal cord, by means of the spinal fluid which becomes medicated through the choroid plexuses of the ventricles. Too small a dose of salvarsan or neosalvarsan is given by the various intraspinal methods of treatment, and for this reason it is claimed

that the carotid route, by means of which from one hundred to six hundred times the spinal dose may be repeatedly given, should be productive of good results.

Three injections were given to an adult male paretic. The first dose of 0.55 gm. of neosalvarsan was followed in five weeks by a second injection of 0.9 gm., and in less than four weeks by a third injection of 0.9 gm. The first two injections were administered with the patient under ether anesthesia, and the third under local anesthesia, one-half per cent. novocain solution being used. No ill effects followed the injections. Ten days after the last injection there was a distinct physical and mental improvement.

#### THE TREATMENT OF SYPHILIS. FAXTON E. GARDNER, p. 92.

It is emphasized that the patient should be prepared previous to an intravenous injection of an arsenical preparation. Besides a small dose of salts every morning for four days and a physic the night before injection, a copious intake of fluid is prescribed to favor elimination through the kidneys. Unpleasant reactions from water impurities may be diminished by using small amounts of water, from 60 to 90 c.c. for 0.6 gm. of salvarsan and from 12 to 15 c.c. for 0.9 gm. neosalvarsan. In early cases, abortive treatment with salvarsan is attempted; but in old cases neosalvarsan is employed, as it is less toxic and less dangerous to use.

Galyt contains 36 per cent. of arsenic and 7.5 per cent. of phosphorous. It possesses a higher spirillicide power than salvarsan or neosalvarsan, and it is administered in doses of 0.4 gm. It produces a marked tonic effect and the prompt disappearance of active lesions and no unpleasant reactions.

For mercurial treatment the soluble salts are preferred. The advantages are: lesser local reaction; quick absorption; prompt effect, and no fear of accumulation.

The author doubts whether intraspinal treatment has any special worth.

#### ACNE. EDWARD H. MARSH, p. 105.

### VIRGINIA MEDICAL SEMI-MONTHLY

(April 13, 1917, 17, 1)

Abstracted by OSCAR L. LEVIN, M.D.

#### VARICOSE ULCER; ITS TREATMENT. GEORGE A. CANTON, p. 13.

When contraindications do not exist the author advises the removal of the varicose veins. This depletes the stagnant condition of the superficial veins by forcing the superficial venous circulation through the deep venous channels, and thus promotes a healthier state of the tissues.

(*Ibidem*, May 11, 1917, 22, No. 3)

#### SYPHILIS OF THE STOMACH; REPORT OF A CASE. CAR- RINGTON WILLIAMS, p. 70.

The case reported is that of a man who had a chancre twenty years previous to the onset of gastric symptoms. He complained of a sharp, almost constant epigastric pain which was relieved by vomiting. In making the diagnosis, appendicitis was excluded as the appendix had been previously removed; and gall-bladder disease was ruled out because the organ had been found normal during the operation. Cancer was improbable because of the good general condition and the absence of blood in the stool and vomitus. Peptic ulcer was excluded because of the irregularity and character of the pain and the absence of blood.

The Wassermann reaction proved to be + + + +, and the symptoms were relieved by antisyphilitic treatment with mercury and iodids.

(*Ibidem*, May 25, 1917, 22, 4)

#### SYPHILIS OF THE CIRCULATORY ORGANS. H. H. HAZEN, p. 87.

Nearly 50 per cent. of all syphilitic patients develop cardiac lesions. These changes may be classified as follows: pericarditis, myocarditis, endocarditis, valvular disease, diseases of the coronary arteries, angina pectoris, cardiac aneurysm, and heart block.

Aortitis occurs in nearly one-half the patients and not infrequently terminates in aneurysm.

Peripheral arteritis is not common, and there is much confusion between it and Raynaud's disease.

Syphilis of the veins is characterized by the development of a diffuse thickening of the vein, a nodose thickening, a diffuse periphlebitis, and the erythema nodosum syphiliticum.

Gummata of the lymph nodes may be mistaken for tuberculosis, Hodgkin's disease, or lymphosarcoma.

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## Obituaries

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### BURNSIDE FOSTER

DR. BURNSIDE FOSTER, one of the pioneer dermatologists of the northwest, died at his home in St. Paul, on June 13, 1917.

Dr. Foster graduated from the Harvard Medical School in 1886, shortly thereafter locating in Minneapolis, a few years later moving to St. Paul. He was a member of the American Dermatological Association and the first president of the Minnesota Dermatological Society.

Dr. Foster was noted for his scholarly and literary attainments, was editor of the *St. Paul Medical Journal* for seventeen years, and an authority on the history of medicine. For many years, at the University of Minnesota, he gave a very fascinating course of lectures on the history of medicine.

G. M. O.

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### WILLIAM BEER EWING

Dr. William Beer Ewing died June 17, 1917, at his home in Schenley Farms, Pittsburgh, at the age of 51 years. He received his degree in medicine in 1896 at the Western University of Pennsylvania, now the University of Pittsburgh. Soon after graduation he studied dermatology under Dr. T. C. Gilchrist at Johns Hopkins University, later establishing an office at Pittsburgh, where he practiced his specialty until the time of his death.

Dr. Ewing was professor of dermatology and syphilis at the University of Pittsburgh; a member of the Allegheny County, Pennsylvania State, and American Medical Associations; dermatologist to the Allegheny General, Children's, St. Francis, and Western Pennsylvania General Hospitals; and a member of various social and fraternal organizations. For several years he was president of the Pittsburgh Academy of Medicine and treasurer of the Allegheny County Medical Society.

W. H. G.

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CHICAGO



# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXV

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## Original Communications

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### THE PATHOLOGY OF MYCOSIS FUNGOIDES \*

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#### INTRODUCTION

The basis for this article is a series of seven cases of mycosis fungoides which I studied during a period of three years. In all of the cases, excepting one, the clinical diagnosis of mycosis fungoides was confirmed by unanimous consent at representative meetings of various dermatologic societies. One of the cases occurred in private practice; one case comes from the service of Dr. Whitehouse; one from the service of Dr. Kingsbury; the others were encountered in the service of Dr. Trimble at the University and Bellevue Hospital Medical Clinic and in the New York Skin and Cancer Hospital.

Two of the cases were studied postmortem. In one of these, the examination was limited to an investigation of the thoracic and abdominal organs, in the other it was complete. In addition, I have had the opportunity of studying pathologic material from other cases.

#### REVIEW OF THE LITERATURE

A review of the literature of mycosis fungoides commences most appropriately with the year 1806, when Alibert of Paris described a disease which, at that time, he regarded as a form of yaws, but for which he later created the term "mycosis" on account of the "mushroom-like" appearance of the tumors. Other observers, Biett, Cazenave and Schedel, Dèrvèrgie, and Gibert observed similar cases, but considered them with American yaws, in the class molluscum.

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The credit of defining the disease as a special morbid process belongs largely to Bazin, since it was he who did the most to create a place for the particular type of lesion which, with Alibert, he named "mycosis fungoides." Bazin recognized the clinical features of the disease, and distinguished it from syphilis, but not knowing exactly where to classify it he created for it the term "diathesis fungoidique." Still later, however, he believed it to be a form of leprosy, and described several cases under the name of "lepre-indigene."

In 1869, Gillot, in a thesis inspired largely by the researches of Bazin and the histologic studies of Ranvier, concluded that the disease was due to the development of reticular lymphoid tissue in the skin, and therefore should be considered as a cutaneous manifestation of the lymphoid diathesis. He proposed the name "lymphadenée cutanée." The further studies of the French writers, Landouzy, Debove, Desnos, Barié, Galliard, Demange, and others, confirmed the researches of Gillot and Ranvier, but Siredey, to whom Vidal referred for examination a tumor from one of the six cases which he was studying, regarded it as a variety of lymphosarcoma, resembling the type described by Rindfleisch as "sarcome lymphadénique myxoïde." Vidal himself regarded it as a disease *sui generis*, representing pathologically a lesion midway between lymphadenée and sarcoma.

Up to this time nearly all the literature on the subject was French. The first article which appeared in German was Köbner's in 1864. He gathered his facts from and based his conclusions on the study of four cases in the St. Louis Hospital in Paris. He described the disease as "papillomatous fungoid tumors of the skin" and concluded that the tumors were inflammatory in nature and pointed out the resemblance to granulation tissue.

Hebra described cases in 1872 and 1874. Erasmus Wilson, of England, described the disease as "eczema tuberculatum" in 1874. In the same year Tilbury Fox called it "fibroma fungoides." Auspitz was the first to use the name "granuloma fungoides," which has since been adopted by the majority of modern writers — Stelwagon, Ormsby and others. In 1879-1880 Duhring described a remarkable case of mycosis fungoides which was the first of its kind to be reported in America. This author did not believe that his case was of the same nature as those reported by Hardy, Bazin and Köbner. The only cases known to him at that time which he was willing to recognize as belonging in the same category as his, were those published by Hebra, one in 1872 and the other in 1874. He calls attention to the "mycosis fungoides" of Gillot and Ranvier as one of the diseases from which the type of lesion described by himself was to be differentiated. His interpretation of the pathology of the lesion was that the growths during their early stage were inflammatory, but that later they assumed

the appearance of sarcoma. C. Heitzmann, who made a histologic report of Dühring's case, regarded it as a sarcoma, but Longstreth regarded the growths to be more of the nature of granulation tissue than of genuine neoplasm. Kaposi regarded the disease as a form of sarcomatosis engrafted on a previous dermatosis, eczema or psoriasis. Brocq looked on it as the last phase of any one of a series of dermatoses, including pityriasis rosea and the parapsoriasis. Paltauf, in his earlier writings, referred to it as a form of lymphosarcoma; but later published an article in collaboration with von Zumbusch, based on the study of two cases with necropsies, in which he concluded that the disease bore no relation to the neoplasms, and should be classed with the infective granulomas.

These widely divergent opinions in regard to the pathology of the disease have not yet been acceptably adjusted. A review of the literature from 1900 to the present time indicates that the majority of modern observers are of the opinion that mycosis fungoides should be classified with the infective granulomas. There are others, however, among whom may be mentioned Radaelli, who postulate for it a position half-way between an inflammatory and sarcomatous process. Pardee and Zeit regard the disease as an a-lymphemic lymphomatosis, and Strobel and Hazen conclude from a study of two cases in the negro with a necropsy in one, that it should be classified as a lymphoma of the skin.

In an article just published by Symmers, entitled "A new Interpretation of the Pathological Histology of Hodgkin's Disease," the theory is advanced that Hodgkin's disease and related affections, in which he includes mycosis fungoides, are systemic conditions and are neither strictly inflammatory nor neoplastic, but partake of the nature of both of these processes. The theory, briefly stated, is that the provocative agent in Hodgkin's disease causes preliminary hyperplasia of the cells of certain groups of lymph nodes, oftenest the cervical. At the same time certain cells of the bone marrow, notably the eosinophils, eosinophilic myelocytes and multinucleated myeloid giant cells, are discharged into the circulation and filtered out by the hyperplastic lymph nodes or attracted there by chemotactic influences. The sclerotic changes in the lymph nodes in Hodgkin's disease are regarded by Symmers as a purely local and reactive process.

#### SUMMARY OF DIFFERENT VIEWS

1. A granuloma (Stelwagon, Ormsby, MacLeod, Auspitz, Köbner and others).
2. A cutaneous form of lymphadenoma (Gillot and Ranvier).
3. A lympho-sarcoma (Siredey). (Paltauf, 1902.)

4. A condition halfway between a granuloma and sarcoma (Radaelli).
5. An a-lymphemic lymphomatosis (Pardee and Zeit).
6. A sarcoma engrafted on previous dermatoses, psoriasis and eczema (Kaposi).
7. The last phase of a series of dermatoses which include pityriasis rosea and the parapsoriasis (Brocq).
8. A lymphoma of the skin (Strobel and Hazen).
9. A cutaneous manifestation of a systemic disease of toxic origin (Symmers).

#### REPORT OF CASES

CASE 1.—W. T. H., an American, lawyer, aged 42, with unimportant family history. The patient states that he was never ill until the year 1905. During the spring of this year a swelling, which assumed the size of a walnut, appeared without apparent cause, on the right side of the neck, near the ear. Under massage the swelling is said to have broken down and discharged into the throat. About the same time other enlargements appeared on both sides of the neck. These remained for a time and disappeared without breaking down.

Seven years later (1912) the first skin lesion appeared as a smooth red spot about the size of a fingernail under the left eye. In the course of a few weeks this spot enlarged and extended to the other cheek. In the course of the following year the eruption involved the surface of the entire body with the exception of the scalp.

During the next year he consulted physicians in various cities; psoriasis, eczema and even pompholyx were some of the diagnoses made. Later the condition was diagnosed as syphilis, and several intravenous injections of salvarsan were administered without beneficial results.

The patient consulted me for the first time on Nov. 6, 1913. The examination of his skin then revealed a generalized eruption which consisted of dusky red to reddish yellow, erythematous patches of irregular shape, ranging in size from that of a twenty-five cent piece to that of the palm of the hand. The majority of these patches were of the macular type of lesion, but some of them were infiltrated and raised above the level of the normal skin. The patient complained of intense itching.

Blood smears, serum and a piece of tissue ( $\frac{1}{2}$  by  $\frac{1}{4}$  inch) from an infiltrated patch on the outer side of the thigh, were taken for examination.

Later Dr. William B. Trimble, who examined the patient with me in consultation, concurred in the diagnosis of mycosis fungoides and advised treatment with Roentgen ray.<sup>1</sup>

Six months later, April 4, 1916, I again saw the patient. At this time the entire surface of the body, including the scalp, hands and nails, was covered with a polymorphic eruption. There were numerous red to reddish purple plaques, generally of irregular outline, but in some areas assuming the form of circles and semicircles. The plaques composing the circular lesions consisted of smooth, hard and glistening masses elevated in places from 1 to 3 mm. above the level of the apparently normal skin. Many of the irregular shaped patches showed scaling, and some of them were covered with blebs from which oozed a grayish puslike fluid. The entire scalp presented an oozing and scaling surface. In other areas, especially about the flexures, were large, non-elevated,

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1. Dr. Meyers of Hartford, with a few roentgen-ray exposures succeeded in clearing the eruption completely from the hands and face, but in spite of this good result the patient arbitrarily discontinued the treatment.



erythematous patches which showed a tendency to scaling, suggesting a dry eczema or seborrheic dermatitis. The palms, soles and the dorsal surface of the hands and feet showed scaling, together with deep fissures extending well into the nails; some of the toe nails had exfoliated. The skin over the legs was tense, of a bright red color, and pitted slightly on pressure. The lymph nodes were everywhere enlarged. A smooth swelling about the size of a small orange occupied Scarpa's triangle on the left side. The itching was intense and the patient was constantly scratching.

The patient was again seen Oct. 14, 1916, four years after the onset of the disease, and at this time he decided as a last resort to undergo roentgenotherapy.



Fig. 1 (Case 1).—True mycosic nodules in region of right clavicle. Subcutaneous lymph nodes in region of nipples and groins.

Accordingly arrangements were made with Dr. Arthur Holding for his admission to the General Memorial Hospital. His condition had grown progressively worse during the last six months. He was weak and emaciated and his mind was not clear. He coughed continuously, and expectorated large quantities of a thick, greenish purulent fluid. Because of the annoyance from the cough and itching he was unable to sleep. Roentgen-ray and physical examination revealed extensive peribronchial infiltration, thickening of the pleurae and enlarge-

ment of the mediastinal lymph nodes. The skin condition showed many characteristic features of the so-called "tumor period." Many of the erythematous patches had taken on the form of large, raised, hard, flat masses with ulcerating surfaces from which oozed a clear sticky fluid. One of these areas, situated over the right clavicle, is well shown in the accompanying photograph (Fig. 1). Large, smooth masses were distinctly palpable in the groins and axillae. Solitary nodules, ranging in size from that of a filbert to a large walnut, were scattered over the surface of the chest, back and limbs (Figs. 1 and 2). These nodules were freely movable in the subcutis and bore no relation to the infil-

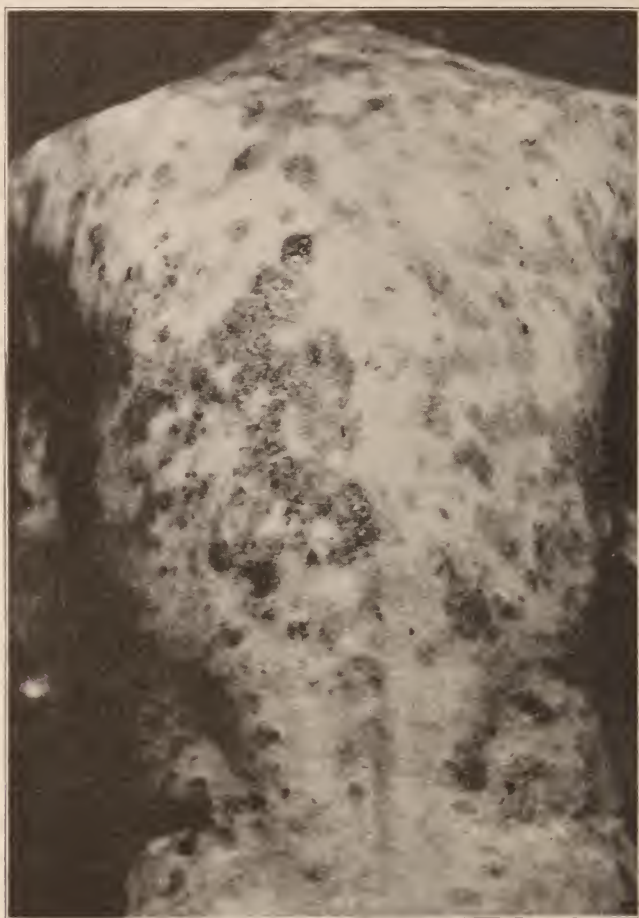


Fig. 2.—Back view of Figure 1. Observe the large subcutaneous lymph node over the left elbow joint.

trated plaques in the skin. Microscopic examination showed them to be lymph nodes. Glandular swellings in the cervical region varying in size from that of a filbert to a hen's egg were suggestive of the clinical picture in Hodgkin's disease. The posterior cervical and submental nodes formed large, nonpainful, discrete masses of fairly firm consistence, and freely movable under the skin.

The patient died one month after admission to the hospital, and a necropsy was performed by Prof. James Ewing.



Fig. 3 (Case 1).—View of hands showing scaly eczematoid eruption with involvement of the nails.



Fig. 4 (Case 1).—Nest of small and large round cells in a papilla. Four mitoses are shown. A small nest is present also in the epiderm to the left. (Section taken in 1913.)



## ANATOMICAL DIAGNOSIS

*Skin.*—Mycosis fungoides.

*Right Lung.*—Croupous pneumonia. Acute sero-fibrinous pleuritis.

*Left Lung.*—Multiple granulomatoid peribronchial foci following the distribution of the bronchi.

*Spleen.*—Chronic passive congestion.

There was complete consolidation of the right lung. Near the hylus of the lung in the upper lobe the cut ends of the bronchi and of the pulmonary vessels were slightly thickened and cream colored. In several places the parenchyma in the immediate neighborhood of the thickened bronchi was rather firm in consistence and presented a grayish or somewhat cream colored, rather smooth appearance, suggesting granulomatous foci. Similar firm, cream colored,

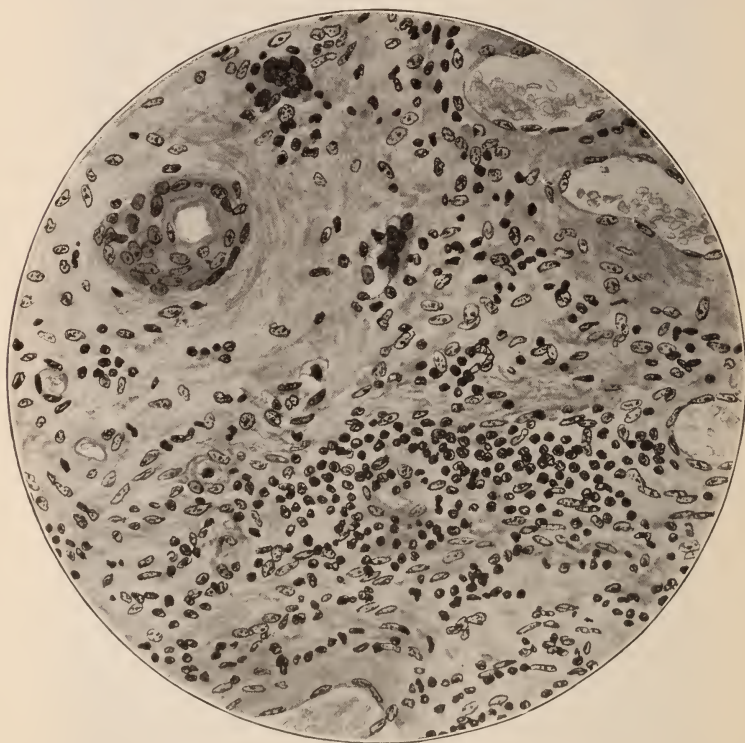


Fig. 5 (Case 1).—Section of corium taken in 1917, showing lymphocytes, plasma cells, and numerous irregularly arranged cells of the so-called "endothelioid" type. Two bunches of nuclei simulating chorioplaques are shown. The collagen is hyaline and the capillaries are dilated.

dense areas were present in corresponding situations in the left lung. Peribronchial lymph nodes were numerous. Some were discrete and some were bunched together by dense adhesions of their capsules. They varied in size from that of a filbert to that of a walnut. On section, the nodes presented a firm surface which varied in color from a grayish red to dull white. In one or two of them were yellowish spots which were not friable but as firm in consistence as the rest of the node.

The retroperitoneal lymph nodes on the left side of the spinal column were enlarged, brownish red in color and of firm consistence. They numbered



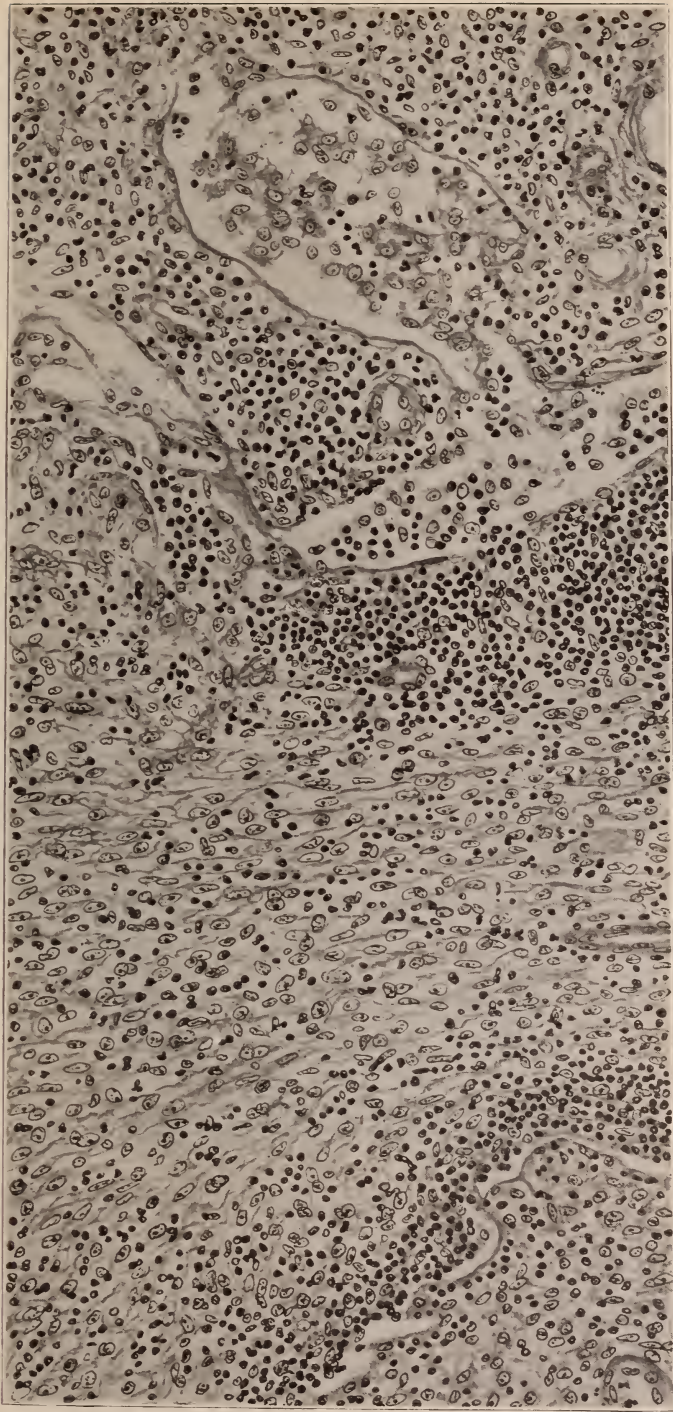


Fig. 6 (Case 1).—Section of subcutaneous lymph node showing sinuses, being filled (top) and finally obliterated (lower right corner) by proliferation of reticular cells. The lymphocytes of the cords are being replaced by plasma cells (periphery) and later by large reticular cells (center).

twenty to thirty, the largest being cigar shaped and measuring about 5 cm. in length and 1 cm. in thickness. The others were rounded or oval. The cut surface of the lymph nodes with the exception of some sharply defined, cream colored or yellowish areas, was smooth and glistening. The nodes removed from the left groin were oval, about the size of a hen's egg, hard, grayish white in color, and in places finely nodular or lobulated. The sections presented the same naked eye appearance as those described above. The lesions found in the other organs were unimportant.

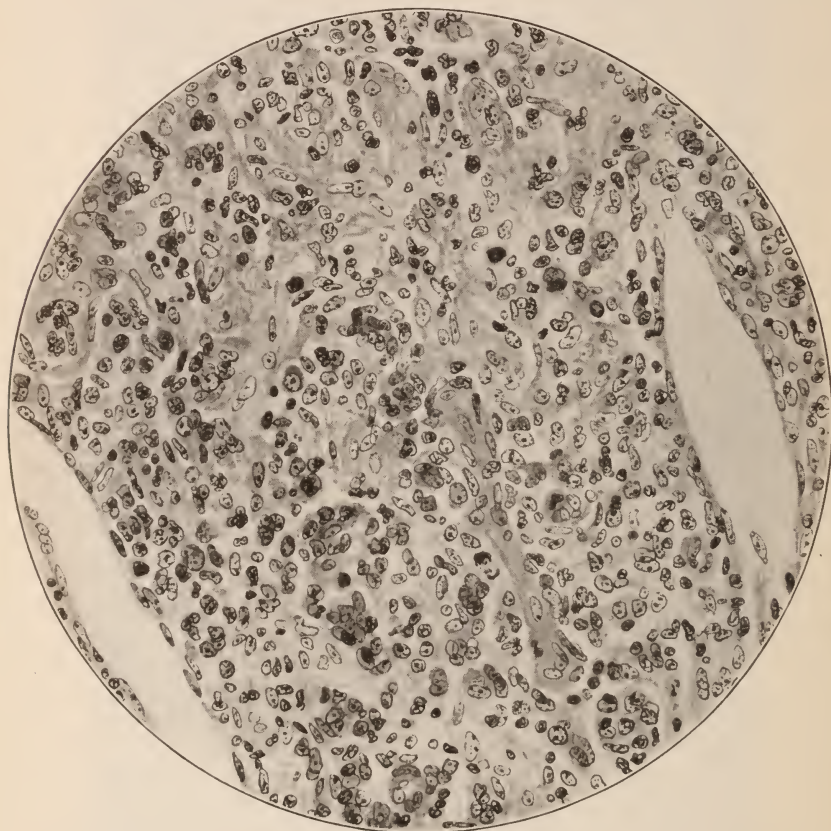


Fig. 7 (Case 1).—Biopsy section from one of nodes under right nipple (Fig. 1).

#### HISTOLOGY

Sections from the skin plaque referred to above, removed September, 1913, show the following histologic features:

*Corium.*—The changes are confined to the upper third of the corium. The chief features are the proliferation of light staining oval cells (connective tissue cells), the presence around the vessels and hair follicles of small lymphocytes and larger round cells with large hyperchromatic nuclei, and occasionally in the tops of the papillae a nest of these round cells with large hyperchromatic nuclei which are frequently in mitosis. These nests occupy the upper parts of the papillae and encroach on the epiderm (Fig. 4). Occasionally they are present in the malpighian layer.



The skin section represented in Figure 5 was removed at necropsy. The exudate is also distributed throughout the upper third of the corium and the papillae, and is more abundant around the blood vessels, the sweat ducts and the hair follicles. The cells represented are lymphocytes, plasma cells, fibroblasts and adult connective tissue cells.

The collagen fibers of the stratum papillare appear to be fused together and hyalinized; those in the reticular are thickened and greatly increased in number. The blood capillaries in the papillae are considerably dilated; in the reticular they show marked proliferation of endothelium, and in places new capillaries are developed in compact bunches, forming capillary "hemangiomas" which extend down into the subcutaneum.

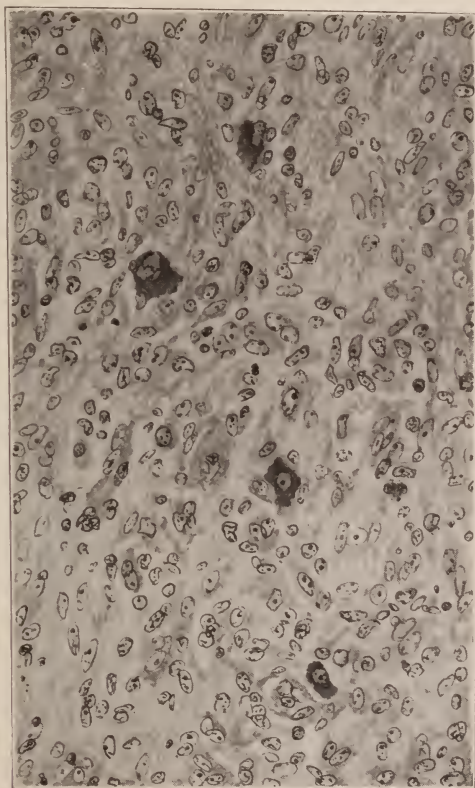


Fig. 8 (Case 1).—Section from same lymph node as Figure 7, showing large cells with homogeneous acidophilic cytoplasm.

*Epiderm.*—There is acanthosis. Here and there are found small "cell nests" of the character noted in the biopsy section. The corneous layer shows slight hyperkeratosis and in places marked parakeratosis with the formation of "Munro's abscesses."

*Lungs.*—Sections from the granulomatous areas of the lung show a cellular infiltration composed principally of plasma cells, and which is most dense in and around the walls of the bronchi and blood vessels. Farther out from the bronchioles the wandering cells are fewer and intermixed with numerous fibroblasts. Some of the alveoli are collapsed, some are distended with large, desquamated,

fat-containing epithelial cells and others are filled with fibrin which is undergoing organization (Figs. 11 and 12).

Sections from the consolidated areas show alveoli filled with leukocytes and fibrin.

*Lymph Nodes.*—All examined show pathologic changes. The architecture is mostly obliterated. In the smaller nodes the lymphocytes are extensively replaced by large plasma cells, and, in places, by collections of eosinophils. Here and there are seen cells of a larger type with a comparatively small rim of clear cytoplasm and a large, rather deeply staining nucleus, which is frequently slightly indented.

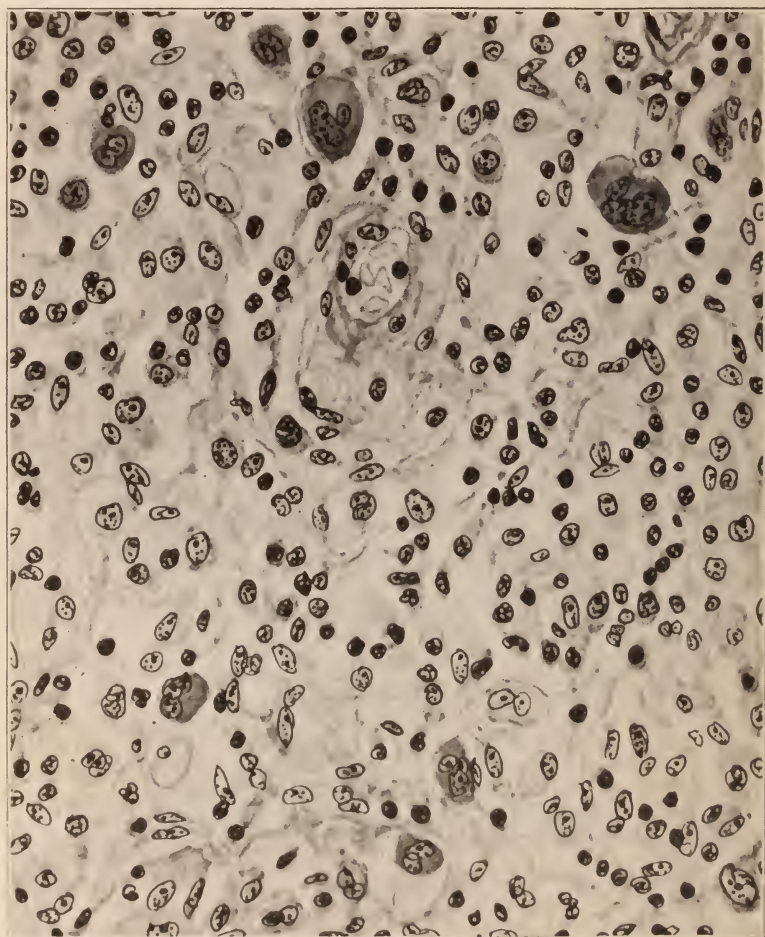


Fig. 9 (Case 1).—Necropsy section of large inguinal lymph node.

In the larger nodes and in the subcutaneous nodes obtained by biopsy, the plasma cells are replaced by extensive areas composed of cells of the size and character of the so-called "endothelioid" cells seen in the nodes of Hodgkin's disease. Some of these cells have elongated vesicular nuclei, and their cytoplasm is strung out into processes which are continuous with the reticulum of the node. In the meshes of the reticulum are numerous large cells with large rounded nuclei showing a varying amount and arrangement of chromatic granules. The cyto-



plasm is sometimes fairly densely but most frequently sparsely granular. The nuclei are frequently in mitosis and occasionally multilobed or multiple. Here and there among these cells are a few others of the same size which closely resemble plasma cells. Indeed, in places it appears possible to trace a transition between the plasma cells and the larger cells just described. This is more forcibly brought out by staining with toluidin blue, in which case the cytoplasmic granules of the plasma cells and of many of these large cells take the same metachromatic stain, namely, a reddish purple. Eosinophils are sparsely scattered throughout the tissue, but in places they appear in fairly dense collections. The picture on the whole, thus simulates closely that of Hodgkin's disease.

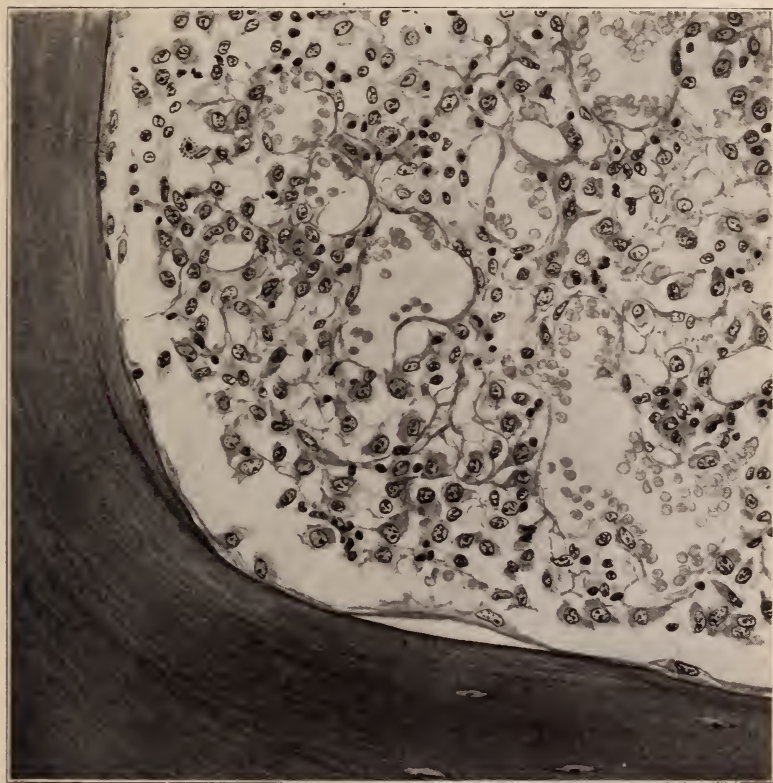


Fig. 10 (Case 1).—Section of vertebra.

All of the larger cells, including the multinucleated giant cells, when treated with alphanaphthol and dimethyl-paraphenyldiamin give a negative oxydase reaction, which fact lends support to the view that they do not belong to the granular series of bone marrow cells.

A striking feature is the presence of mononuclear or binuclear cells with a large irregularly shaped cell body and eosinophilic, nongranular, homogeneous cytoplasm. These cells do not give the oxydase reaction and hence are not true eosinophils. The nucleus resembles that of the plasma cell.

*Vertebrae.*—The medullary spaces are distended with cells. Here and there, however, groups of spaces are filled with a delicate myxomatous-like connective tissue in which few cells, chiefly lymphocytes, are present. Other cellular areas are composed chiefly of myelocytes, a fact which is proved by a positive oxydase

reaction. Scattered among these are a few lymphocytes and an occasional plasma cell. Frequently the lymphocytes appear in isolated colonies of variable size. The number of red cells, polymorphonuclear leukocytes, eosinophils and basophils in relation to one another is about normal, but very small in proportion to the number of the myelocytes and lymphocytes. The blood capillaries have delicate walls, are widely dilated and filled with red cells. Here and there small areas of hemorrhage occur.

*Spleen.*—In many of the splenic nodules the reticulum is markedly increased, and the lymphocytes diminished and partly replaced by plasma cells, among which are sparsely scattered, large mononuclear and sometimes binuclear cells with irregularly shaped, hyalinized, slightly eosinophilic and sometimes basophilic

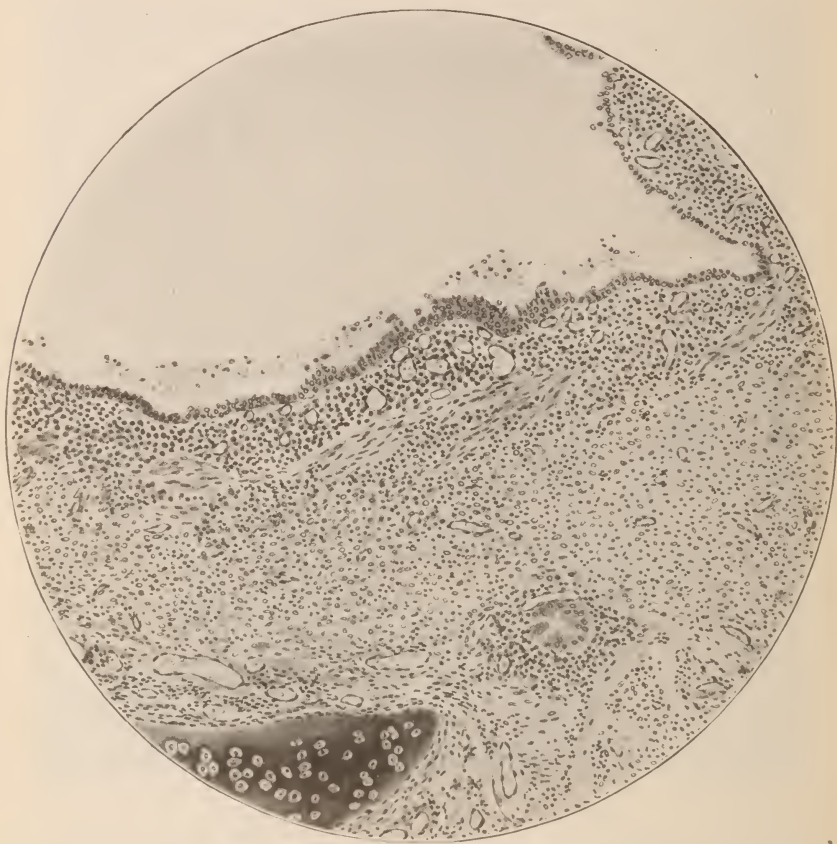


Fig. 11 (Case 1).—Section of a bronchial wall in a granulomatous area. (Low power.)

cytoplasm, corresponding to the cells of similar character already described in connection with the lymph nodes. Groups of plasma cells are found around the trabeculae and smaller branches of the arteries. A few plasma cells, either sparsely scattered or in small groups, are also seen in the pulp.

*Blood Vessels.*—The capillaries are mostly dilated and there is cellular infiltration of the adventitial sheath of the arterioles. Sometimes there is moderate proliferation of the capillary endothelium, and occasionally in the older lesions slight hyalinization of the walls. No destructive or sclerotic changes comparable to those characteristic of syphilis or tuberculosis are present.

We have for consideration, therefore, a case which, neither in its mode of onset nor early development, presented any symptoms which might have suggested a diagnosis other than that of a straightforward premycosis, but which finally presented clinical and pathologic features indicative of Hodgkin's disease.

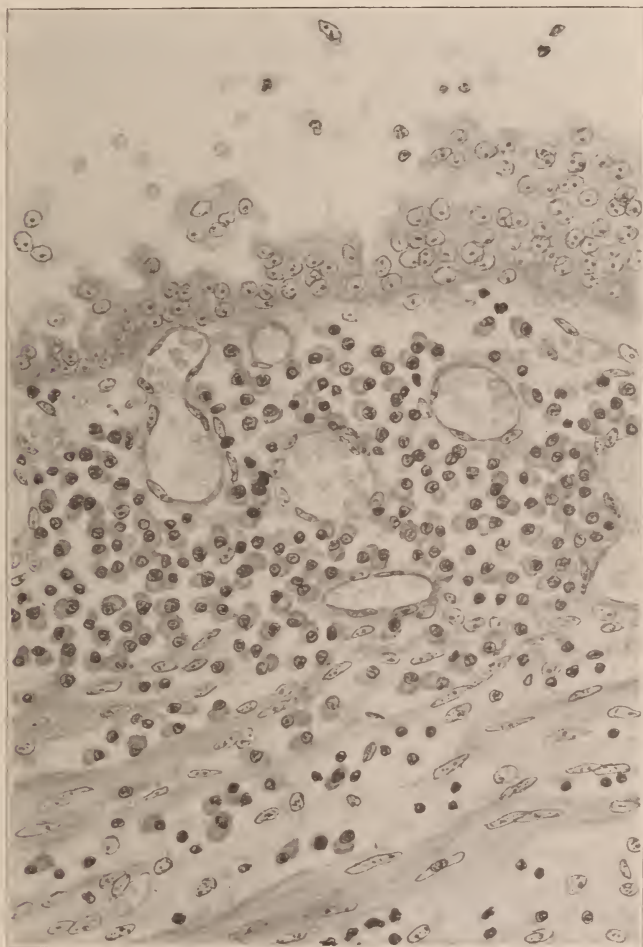


Fig. 12 (Case 1).—High power view of Figure 11 showing cellular exudate to be composed principally of plasma cells.

Galloway,<sup>2</sup> with considerable experience, refers to two cutaneous manifestations, which he has occasionally observed in Hodgkin's disease, viz: (1) a generalized dermatitis associated with the appearance

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2. Galloway's description of these "nodules" is vague but in all probability he means subcutaneous lymph nodes.



of pruriginous points and macules, pigmentation, lichenification, and frequently pruritis of intense degree. (2) Papules and nodules with histologic features identical with the characteristic lymph nodes lesions of the disease. He finds a similar analogy in the case of the leukemias, but Whitfield on the other hand claims that this analogy is only a superficial one, and draws attention to the fact that in Hodgkin's disease and the leukemias the prodromal and tumor eruptions are fundamentally different histologically, that in these diseases the tumor eruption is not apparently a development of the prodromal eruption, whereas the tumors of mycosis fungoides are an actual overgrowth, that is to say, an exaggeration of the premycotic eruption.

Paltauf at first believed that mycosis fungoides was a form of lymphosarcoma, but later strongly advocated the "granuloma theory," that it (mycosis fungoides) has no relation to Hodgkin's disease or to sarcoma as claimed by Radaeli, or with the leukemias or lymphoma as claimed by Pardee and Zeit, and Strobel and Hazen. Paltauf says:

In mycosis fungoides we have a primary disease of the skin, extending over a course of years with continual progress, and a tendency to degenerative changes, complete necrosis and ulceration. In "lymphogranuloma" we have the disease localized in the skin, and a dry necrosis similar to caseation, without ulceration. In "lymphogranuloma" the skin lesions are urticarial or prurigo-like, while in mycosis fungoides, we find either eczematoïd or psoriatic lesions most delicately reddened, and sharply circumscribed or serpiginous erythematous areas. It does not remind one of urticaria.

Both Paltauf and Whitfield also emphasize the point that the leukemias are essentially different from mycosis fungoides in that the leukemic processes always remain a proliferation of lymphocytes; while the lesions in mycosis fungoides eventually may resemble "granulation tissue."

In regard to the case under consideration (Case 1), the onset was clearly that of mycosis fungoides, the history and clinical features during the first three years of its course constituted a straightforward picture of mycosis fungoides, and there was no suggestion of a resemblance to any other known disease. It has been shown that the nodules which developed under the skin in the last stage of the disease had no connection whatever with the premycotic eruption, and that the skin over these nodules presented a normal anatomic picture. They were not, therefore, true mycotic tumors, and as already stated, the microscopic examination proved them to be lymph nodes in which the normal architecture was completely replaced by a cellular infiltration which bears a striking resemblance to that found in the lymph nodes of Hodgkin's disease. There were, however, true mycotic tumors in the skin and indeed all the skin lesions throughout the whole history of the case were from the clinical aspect mycotic and not in any way like



the urticarial or prurigo-like dermatoses claimed by Paltauf and others to be associated with Hodgkin's disease. So, too, from the histologic standpoint the structure of the skin tumors is simply a further development of the pathologic process seen in the earlier premycotic lesions—the feature claimed by Whitfield to be characteristic of mycosis fungoides in distinction from Hodgkin's disease, in which the tumors and earlier dermatoses are fundamentally different histologically.

These facts exclude the interpretation of the case as one of Hodgkin's disease with "pseudomycotic" skin manifestations, and it would seem that we are left with the following alternatives:

1. We are dealing with a case in which Hodgkin's disease and mycosis fungoides coexist as independent diseases.

2. Hodgkin's disease and mycosis fungoides are different manifestations of one and the same disease.

3. Hodgkin's disease and mycosis fungoides are different diseases, but are caused by agents which can under certain conditions stimulate the tissues to very similar reactions.

It seems that there is not sufficient difference between the histology of the skin lesions and that of the lesions in the lymph nodes to justify the acceptance of the first. Though the former do not show what may be termed characteristic histologic features of Hodgkin's disease as do some of the latter, yet in many respects the character of the cells found in them (even in the earliest lesion studied, Fig. 4) is more suggestive of this disease than of any other type or group of lesions. Furthermore, when the skin lesions are carefully compared with the many affected nodes which are less characteristic of Hodgkin's disease, it becomes evident that all the changes, in both skin and lymph nodes, are parts of one and the same pathologic reaction.

In regard to the second and third alternatives it may be said that no definite histologic facts have been established in the study of the case which aid us in making a choice between them, unless it be the comparatively few areas in the affected lymph nodes that show features distinctly characteristic of Hodgkin's disease, which fact might incline us to favor the third. On the clinical side, too, the facts for the most part strongly favor the third, but in view of the already recognized wide variations in the history and course of Hodgkin's disease, it is probably better for the present at least not to give too much weight to this aspect of the case.

CASE 2.—The patient, a woman, occupation, school teacher, was born in 1855, and always lived in the United States. There is nothing of special interest in the personal or family history. On admission the physical examination revealed nothing noteworthy in the heart, lungs, or other organs, except marked inguinal

adenopathy. One of the enlarged inguinal nodes was removed for examination (February, 1915).<sup>3</sup>

Commencing thirteen years ago and continuing for three or more years, the patient complained of itching of the body when undressing at night, especially severe between the shoulders and at the backs of the knees. Scratching produced whitish elevations (wheals) which subsided in a few hours. Two or three years later, two dry "spots," elevated at the center, less so at the periphery, appeared; one on the outer aspect of the right thigh (3 by 1½ inches in size), and one on the inner side of the right elbow. They were scaly, and their color was that of the normal skin. They did not become red or break down, and gradually disappeared after two years. Pruritis then developed on several areas of appar-

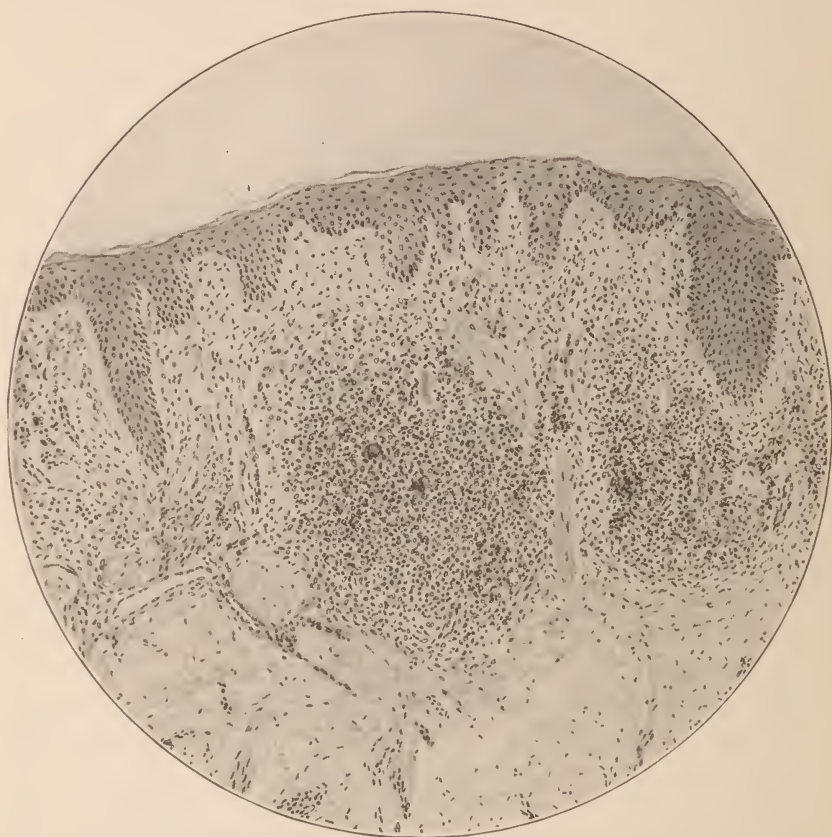


Fig. 13 (Case 2).—Section of skin showing distribution of cellular exudate. (Low power.)

ently normal skin, followed in a few days by elevations similar to those just described. These were of different sizes and were scattered over the body, to the number of twenty or thirty, each faintly red, slightly elevated, more or

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3. I wish to express my thanks to Drs. Whitehouse and Aitken for the privilege of studying this case, which occurred in their service at the New York Skin and Cancer Hospital; to Dr. Crawford, their house surgeon, for furnishing the history of the case and pathologic material obtained by biopsy, and to Dr. Jessup, who performed the necropsy, for furnishing material for study.

less rounded with increasing scalliness and accompanied by intense itching. The patches did not break down or ulcerate. This condition lasted for several years, some of the lesions spreading and becoming redder, and a few coalescing. Finally one large plaque appeared on the right side of the neck which was redder in color than the previous lesions. Other patches then appeared on the back and later over the rest of the integument, which were larger, redder and smoother, and not so scaly as the previous ones, but just as intensely itchy. Lesions did not appear on the face until two years ago.

She sought medical aid two years ago. At that time, especially during warm weather, the lesions oozed a clear, sticky fluid of very disagreeable odor which on drying formed crusts. The average size of the lesions varied from that of a five cent piece to that of the palm of the hand, and were in color usually a

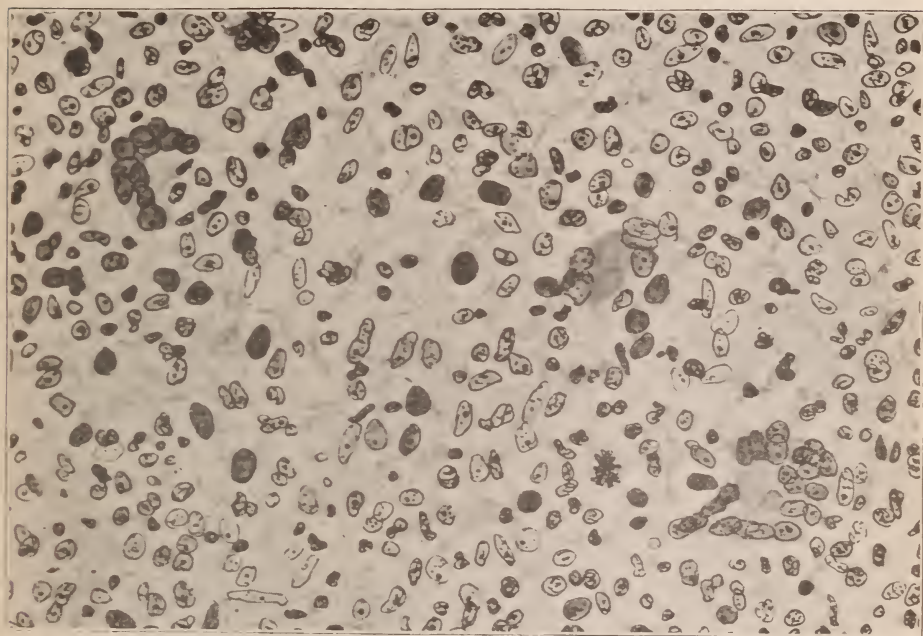


Fig. 14 (Case 2).—High power of Figure 13. Note mitotic figure at left of giant cell in lower right corner.

dark shade of red. One or two years ago a few lesions which later broke down appeared on the toes, right leg and left thigh. Some of the lesions on the buttock and back ulcerated in a circinate form.

The patient died and a necropsy was performed by Dr. S. Jessup shortly after death. The skin of the entire body was brownish in color, and that of the anterior aspect of the chest presented a large, slightly elevated and indurated, irregularly outlined scaly, silvery patch. The hair of the head was scanty and short; the features were of the masculine type, and there was a noticeable stubby moustache and a growth of hair on the chin. The inguinal and axillary nodes were enlarged, discrete and firm in consistence. The examination revealed nothing worthy of note other than marked hyperplasia of both suprarenal capsules and enlargement of the axillary, peribronchial, retroperitoneal and inguinal nodes, which varied in size from 1 to 5 cm. in diameter. The nodes were discrete and firm. Many of them were almost completely replaced by dense scar tissue.



## HISTOLOGY

(Section taken from an indurated raised plaque on arm.) (Figs. 13, 14.)

*Corium.*—There is edema of the papillae and upper layers of the corium. The papillae contain a few plasma cells, and an increased number of connective tissue cells, among which are a few chromatophores bearing a yellowish brown pigment, and a few mast cells. Beneath this are large areas, taking up the remaining portion of the upper one fourth of the corium, which are densely infiltrated with round cells of varying size and shape. The majority of them have large, round or irregularly shaped nuclei with rather dense homogeneous chromatin. These nuclei frequently show mitotic figures. Scattered among these cells are numerous small, round, deeply staining nuclei, and also a few oval vesicular ones about the size of that of the ordinary connective tissue cell, which are set in an edematous, irregularly pinkish staining background which probably represents a fused mass of cytoplasm and changed collagen fibers. An occasional plasma cell and eosinophil can be seen. There are a few multinucleated giant cells with a hazy, pinkish cytoplasm and numerous heaped-up, oval nuclei. Occasionally the cytoplasm belonging to the larger nuclei is distinct, and appears as a small crescent-shaped rim at one side of the nucleus simulating the larger type of lymphocyte. All of these cells, with the exception of the eosinophils, which are few, small and multinucleated, give a negative oxydase reaction.

*Epidermis.*—There are very few changes worthy of note. There is slight intracellular and intercellular edema in places. A few leukocytes are scattered throughout the intercellular lymph spaces. Some of the interpapillary pegs show acanthosis. In these, numerous mitotic figures are seen near the basal layer.

*Lymph Nodes.*—Sections from the nodes removed at necropsy show large patches of hyalinized fibrous tissue enclosing here and there cellular islands of various sizes. In some of these islands, the plasma cells predominate, in others there are lymphocytes, eosinophils and large cells similar to those described in the lymph nodes of Case 1.

Examination of the lungs, spleen, liver and other internal organs revealed no changes worthy of note.

The pathologic features in this case which are suggestive of Hodgkin's disease are, in contradistinction from the findings in Case 1, more characteristic in the skin lesions than in the lymph nodes, and just how suggestive these features are is well demonstrated in the skin section represented by Figure 5. The giant cells represented here are not, as were those in the lymph nodes in Case 1, of the type usually seen in Hodgkin's disease; yet frequently the cells show an incomplete amitosis or "lobing" of the nuclei, which might well be interpreted as an attempt at the formation of the Hodgkin's giant cell. In all other respects the picture may easily be interpreted as the representation of a Hodgkin's lesion.

An unusual clinical feature in this case is the mode of onset with pruritis, from which the patient suffered for three years without any change in the skin. Dr. Sequeira refers to this mode of onset, and speaks of a case occurring in his experience where the tumors developed immediately after a long period of itching, skipping as it were the so-called premycotic stage.



CASE 3.—C. C. C., of Johnson City, Tenn. The family and previous history are unimportant. The present trouble began in the summer of 1908 with the appearance of reddish-brown, nonelevated macular patches about the size of a thumb nail on the surface of the skin over the waist line. In the course of a month these spots disappeared spontaneously. In the spring of the following year (1909) similar but more extensive lesions developed on the site of the original spots. At this time the patient consulted a physician, who prescribed local treatment, and the eruption disappeared, with the exception of a few faint areas which the patient states did not bother him.

During the following year there was no return of the eruption, and the patient enjoyed good health. But in the spring of 1911 the lesions reappeared



Fig. 15 (Case 3).—Section from a tumor growth. Observe distribution and depth of cellular infiltrate. (Low power.)

over the chest, limbs and in one or two places on the forehead. In July, the patient visited New York and consulted a physician who diagnosed the disease psoriasis. Under a three months' course of treatment the lesions, especially those on the face, seemed to grow worse.

In the fall of 1911, the patient visited the Hot Springs of North Carolina, where he remained two weeks receiving an arsenical treatment and daily baths, under the supervision of a local physician. As there was no improvement he returned home and placed himself under the care of another physician, who

prescribed certain internal remedies and a lotion for external use. He continued this treatment for a period of nearly three months, during which time the eruption on the body completely disappeared, but continued to grow worse on the face. The eruption on the body, however, soon returned, and during the fall of 1911 the patient observed that the lesions were taking on a scaly appearance. Itching began to develop about this time, but this symptom did not become severe until one year ago (1916).

In February, 1913, the patient returned to New York, where he consulted a dermatologist who diagnosed the disease eczema, and treated it for four months without benefit.

There was no evidence of tumor formation until 1913. In June of this year a swelling appeared on the right temple. The growth was rapid and at the

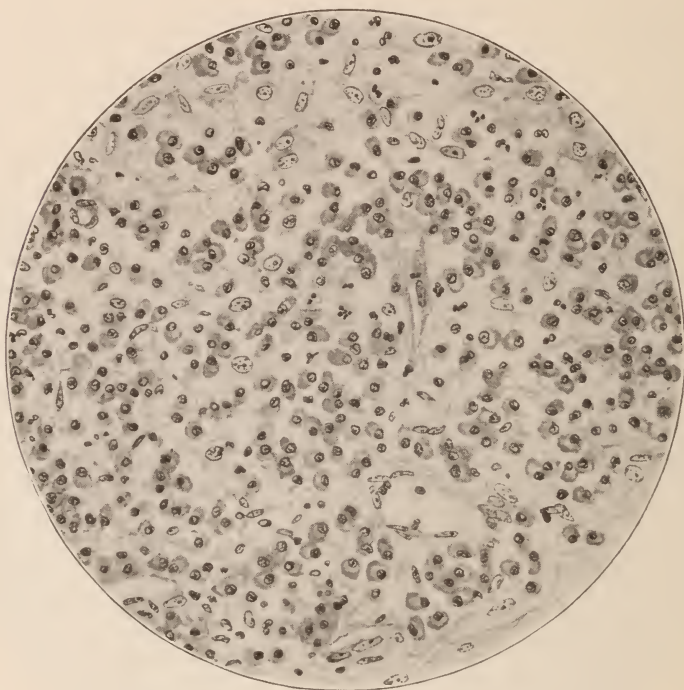


Fig. 16 (Case 3).—High power of Figure 15, showing infiltrate to be composed almost entirely of plasma cells.

end of four months covered an area 4 by 5 inches, and projected from  $\frac{1}{2}$  to  $\frac{3}{4}$  inch above the surface of the surrounding skin. At the end of the fourth month the tumor presented an ulcerated surface which discharged a yellowish sticky fluid. A similar growth about the size of a walnut developed at the same time on the back of the neck.

The patient now visited the Arsenic Springs in North Carolina where he remained for two months without receiving any benefit. He returned to New York in December, 1913, and consulted Dr. George W. Crary, who diagnosed the lesion to be mycosis fungoides, and referred him to the General Memorial Hospital, which he entered in January, 1914. The tumors on the forehead and neck were removed surgically. The areas on the neck and lip were treated with radium, while the remaining lesions were treated with roentgen ray. Skin grafting was done two weeks after the surgical removal of the growth on the temple. At the end of four months' treatment in the hospital (April, 1914)

the wound on the temple was healed, all the skin lesions had disappeared, and the patient returned to his home. Two months later, however, new tumor formations developed rapidly on the arm and other places.

The patient returned to New York in September, 1914. He remained two months, during which time he received roentgen-ray and radium treatment from Dr. Arthur Holding and Dr. W. W. Bosworth. He again returned home, free from all symptoms or signs of disease.

During the year 1915 he again suffered from several relapses which were characterized by the appearance of erythematous patches in various situations that had not progressed to the stage of tumor formation. During the year the patient returned three times to New York at intervals of four months, and each time the lesions yielded completely to roentgenotherapy.

During the last year (1916) itching, which was almost absent in the early period of the disease, became severe, and the scalp, heretofore not affected, became covered with a scaly eruption. The itching was completely relieved by treatment with sublimed sulphur.

While visiting in Bronxville, N. Y. (May, 1916), the patient was attacked suddenly with an acute illness which resulted in his being confined to bed for a period of four months. Dr. H. R. Charlton, who attended him during this illness, diagnosed the condition streptococcus septicemia. It was characterized by multiple abscesses and areas of suppurative periostitis, a leukocytosis varying from 15,000 to 20,000, polynuclears 80 to 90 per cent., evidence of nephritis, and finally a lesion of the mitral valve. This attack was considered by Dr. Charlton an accidental infection, quite independent of the mycosis fungoides. It is a remarkable fact that during this illness all trace of the skin lesions disappeared, but as recovery progressed the lesions began to reappear and the itching became more severe than ever. The patient also observed that the eruption had changed. It now appeared mostly on the back and limbs as a diffuse rash instead of the individual raised, infiltrated plaques which characterized the former outbreaks and which are so characteristic of this disease. The patient was very emphatic in his statement to me that the application of dry sulphur caused the disappearance of this eruption, and complete relief from the itching.

At the time of examination (March, 1917) the patient's skin was clear with the exception of two small areas on the chin and penis, respectively, and some fine scaling of the skin of the eyelids. Scars which resulted from the radium treatment and a granulating area where the skin graft broke down are apparent. In one part of this surface the external table of the skull is exposed.

#### HISTOLOGY

(Section from a tumor growth on the temple.) (Figs. 15, 16.)

*Corium*.—The whole of the corium is infiltrated with dense masses of round cells which extend in cuff-like accumulations along the vessels and sweat ducts down to the subcutaneum. The infiltration is less dense in the papillary layer.

Differential stains such as toluidin blue show that the majority of the cells are plasma cells; the others are lymphocytes with here and there a few eosinophils. Polymorphonuclears are sparsely scattered throughout the corium both within and without the cellular foci. The plasma cells in places show a marked tendency to fragmentation of the cytoplasm and to crenation of the nuclei. This feature makes it difficult to determine their true nature with the ordinary stains.

The vessels are markedly dilated and there is considerable edema of the connective tissue, especially in the papillae and in the papillary layer. There is considerable hyperplasia of the connective tissue surrounding the foci of cellular infiltrate, fibroblasts in some places being quite numerous.

*Epidermis*.—The epidermis is thin immediately over the papillae and the interpapillary pegs are lengthened. In places there is moderate intracellular edema.



*Corneum*.—The corneous layer shows parakeratoses, vesicles filled with blood and serum and masses of necrotic leukocytes (so-called Monroe's abscesses).

The tumor growths in this case were characteristic, having arisen rapidly at the end of a five year premycotic period, finally breaking down and presenting an ulcerated surface. This feature would make the case, from a clinical point of view, the most typical in the series, but the pathologic histology does not show the multiformity of cell morphology present in the two cases previously described, and which is the picture most frequently found in mycosis fungoides. We may say, in this case, that the presence of plasma cells, lymphocytes and eosinophils indicates a subacute or chronic inflammatory process of the common type.

Another interesting feature of this case is the complete abeyance in which the disease has been held by the use of roentgen treatments. I have not seen the patient since March, 1917, but at that time, as stated above, he was practically free from evidence of the malady.

CASE 4.—T. R., a man, aged 70, was born in Ireland and came to America at the age of 25.

*Family History*.—His father died at the age of 66; his mother is still living, aged 90; his grandmother on the mother's side died at the age of 104; he has three brothers and three sisters in good health.

*Previous History*.—The patient always enjoyed good health. He gives a history of having had a ring-worm on the arm at the age of 17.

*Present History*.—The present trouble began four years ago (summer of 1912). The patient's attention was first directed to what he describes as "rough" and "scaling" patches on the sides of the chest and back. Four months later these patches became red and itchy, but the itching did not become very annoying until about a year later.

The patient presented himself for the first time at Dr. Trimble's clinic in August, 1913. An examination revealed the presence of variously sized erythematous-squamous patches involving the entire skin surface, excepting that of the hands, forearms and face, which were free. Some of the areas were slightly infiltrated. The skin of the chest, abdomen and part of the back was of a bright red color which gave to the patient the characteristic "homme rouge" appearance.

At present the skin presents the type of lesion which the textbooks describe as belonging to the intermediary, secondary or infiltrated stage. They include many of the raised, pad-like infiltrated, persistent, erythematous patches, which are regarded by many authorities as being pathognomonic of the disease. These lesions range in size from that of a ten cent piece to several inches in extent, and are smooth and glistening or covered with fine scales. They are usually distinctly raised above the level of the apparently normal skin. In shape they are round or oval, discoid or crescentic, and one situated on the right chest represents a complete circle.

The palpable lymph nodes are slightly enlarged. The blood picture shows nothing abnormal. Repeated Wassermann tests were negative. The serum also fails to bind complement in the presence of an antigen made from mycotic tissue.

#### HISTOLOGY

(Section of skin from an early "plaque.")

*Corium*.—The upper third (papillae and papillary layer) is densely infiltrated with small cells varying in size from that of a lymphocyte to that of an ordi-



nary connective tissue cell. The cell bodies are indistinct, the cytoplasm of the different cells apparently being fused into a homogeneous, faintly staining mass in which the nuclei are embedded. The nuclei seen are of two types: (1) oval or rounded, of homogeneous structure and faintly staining. By comparison with cells in the normal corium it is evident that these are connective tissue cell nuclei which are greatly increased in number; (2) deeply staining irregularly shaped crenated and pyknotic nuclei about the size of the nucleus of the small lymphocyte. Here and there, what is evidently a similar cell appears with a round nucleus and small rim of cytoplasm. These cells (Type 2) evidently belong to the lymphocytic series, and they constitute by far the greater part of the infiltrate. Here and there a few plasma cells and occasionally an



Fig. 17 (Case 4).—Section from a circular lesion of skin. Note dense infiltration of lymphocytes extending to tops of papillae and invading the epiderm. Marked parakeratosis with vesicles in corneum. Acanthosis.

eosinophil can be seen among them. No mitoses are present. The collagen fibers are so changed by the edema that their outline cannot be seen. The papillary vessels are moderately dilated.

*Epiderm.*—The cellular infiltrate extends from the papillae into the epiderm, in places practically destroying and replacing the pegs, occasionally up to the corneous layer. In the neighborhood of the infiltrate there is intercellular and intracellular edema, the epithelial cells showing the same faintly staining appearance as the connective tissue cells of the corium.

Sections taken from a later elevated and circular lesion present a similar histologic picture except for perivascular extensions to the subcutaneum. The distribution is the same as in the early lesion. The changes in the epiderm also are the same as in the early sections except that the corneous layer shows marked parakeratosis and numerous vesicles filled with a homogeneous hyaline substance containing leukocytes and cellular debris (Fig. 17).

The skin only was examined histologically, since removal of the lymph nodes for examination was deemed inadvisable.

The histologic features of the lesions in this case, it will be noted, differ considerably from those in the three cases previously described, but since, as

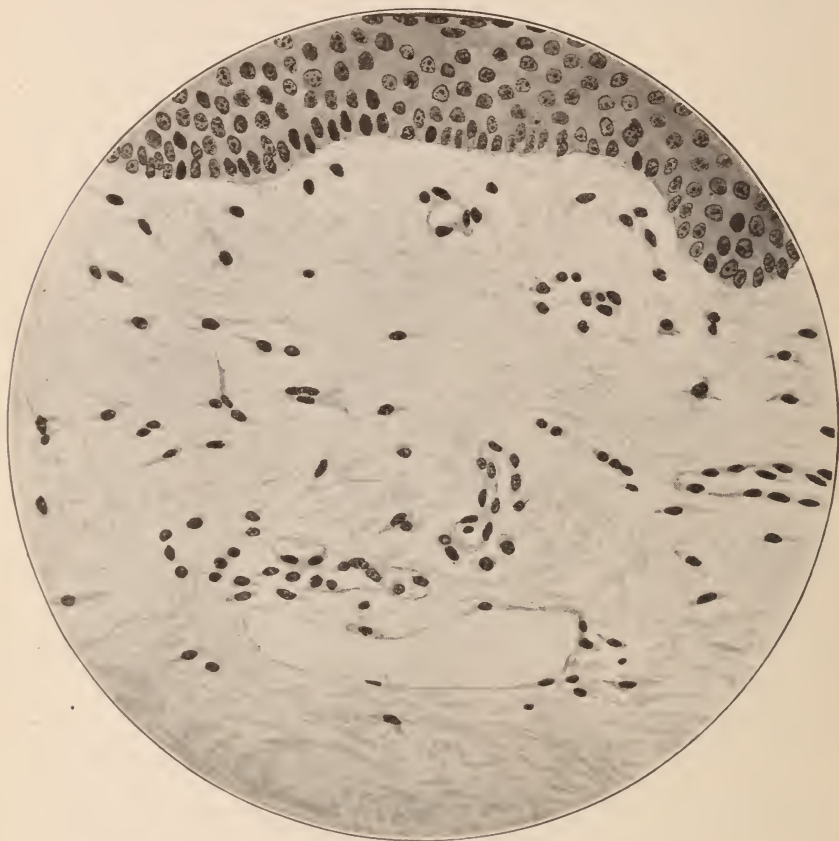


Fig. 18 (Case 5).—Section from an area of apparently normal skin.

will be seen, they are practically the same as those in the two cases which follow, a discussion of these differences will be reserved until later.

A remarkable feature in this case is the rapid manner in which the infiltrated lesions spring up and remain for a few days and then disappear without leaving the slightest trace of their former presence. To illustrate, I had selected a beautiful sample of a complete elevated ring as a fine lesion to show the members of a local society, but when the time for presentation arrived, less than a week later, the lesion was

not there. In the meanwhile, however, another of the same type had arisen in another situation.

A second remarkable feature is in reference to the family history. It has already been noted that this patient comes from a family of long-lived parents. Dr. Pernet of London was the first to make the observation that many of the cases of mycosis fungoides had a similar history. This observation, however, does not seem to accord with the experience of other observers.

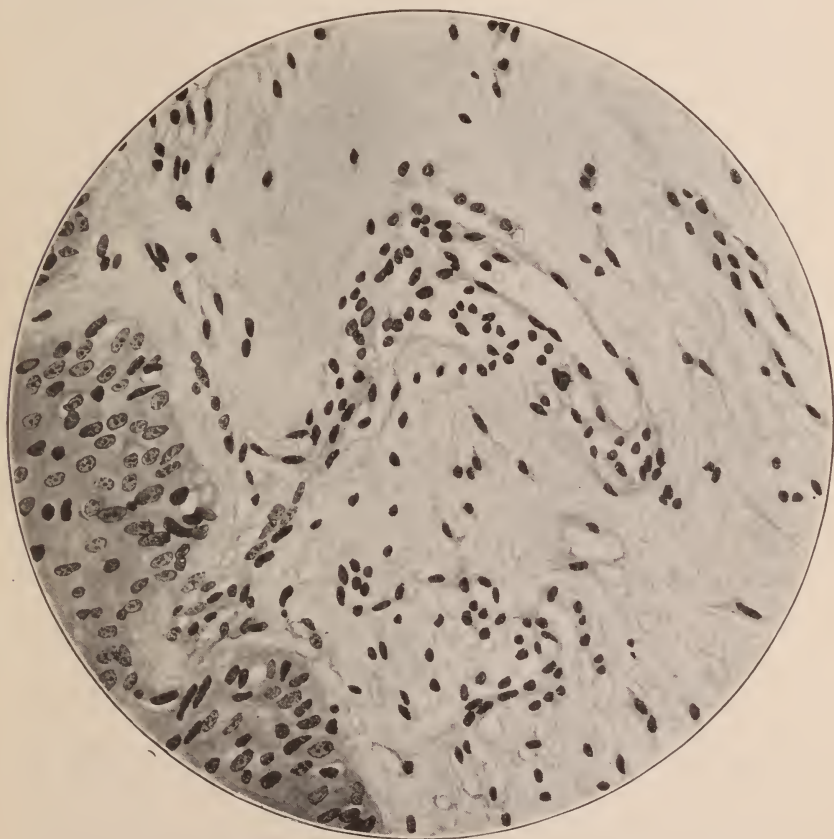


Fig. 19 (Case 5).—Section from an "erythematous" lesion of skin.

And lastly, in regard to the treatment of this case, it is worthy of note that intravenous injections of an arsenical preparation suggested by Dr. Trimble, afforded prompt, efficient and what now seems to be permanent relief from the pruritis.

CASE 5.—The patient,<sup>4</sup> M. B., is a man, aged 45, of Russian birth; occupation, farmer. The family history is negative. The eruption first appeared as dark

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4. I am indebted for the privilege of studying the fifth case to Dr. Kingsbury, in whose service it occurred, at the New York Skin and Cancer Hospital.



yellowish areas on the legs and arms eight years ago. Six years ago (the time of his coming to America) these areas grew larger and spread to the trunk. In the last two years the greater part of the body surface became red and covered with infiltrated plaques. Itching, which has been especially severe of late, did not begin until five years ago. The Wassermann reaction was negative. Blood count normal.

#### HISTOLOGY

A section taken from an area of apparently normal skin shows the following microscopic features: Moderate edema of the upper one-fourth of the corium; a mild and orderly increase of the connective tissue cells; a very mild infiltra-



Fig. 20 (Case 5).—Section from an infiltrated plaque. Note the similarity between this and Figure 17.

tion of lymphocytes in the perivascular sheaths, and for some distance therefrom. The nuclei of the lymphocytes are deeply chromatic and occasionally slightly larger than normal. The epidermis shows no changes worthy of note (Fig. 18).

A section taken from an erythematous but nonindurated area shows a greater amount of edema than that found in the section from apparently normal skin. The lymphocytic infiltration is more marked, and in places invades the epidermis well up into the malpighian layer. The epidermis shows moderate edema, chiefly intracellular (Fig. 19).



The section of a raised plaque shows a dense lymphocytic infiltration of the upper one fourth of the corium, being more dense around the vessels and in the papillae. A few eosinophils and plasma cells are scattered here and there through the infiltration. The connective tissue cell nuclei and the endothelium of the capillaries are moderately increased in number. The lymphocytic nuclei are deeply chromatic and the most of them are crenated. Here and there a lymphocyte of a larger type is seen. There is a moderate number of mitotic figures, but it is difficult to say what cells are dividing; sometimes it appears to be the connective tissue cells, and at other times the large lymphocytes. The lymphocytic infiltration has spread in places from the upper corium and papillæ into the malpighian layer of the epiderm. There is moderate acanthosis, hyperkeratosis and parakeratosis.

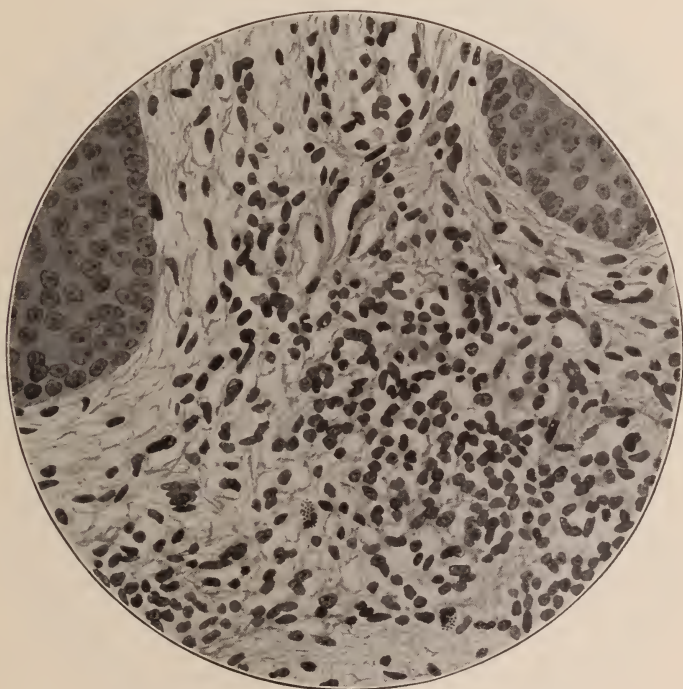


Fig. 21 (Case 5).—High power view of Figure 20. Two eosinophils are shown at bottom.

CASE 6.—There is nothing special to note in the clinical features of this case. The patient is a man of middle age, and is still under observation in the service of Dr. Trimble at the New York Skin and Cancer Hospital.

The histologic features of the lesion are interesting in that they may be interpreted possibly as representing a transitional stage between the type of lesions in Cases 4 and 5 and that in Cases 1 and 2. The character of the cellular infiltration and its distribution are generally the same as in Cases 4 and 5, but not frequently the cell nuclei show disproportionate enlargement, with hyperchromatism, mitotic figures, and a tendency to the formation of lobes by incomplete amitotic divi-

sion—features which, we have seen, constitute some of the chief characteristics of the histology in Cases 1 and 2.

In all these cases (4, 5 and 6) the exudate appears to be more dense in the upper corium and papillae than in Cases 1, 2 and 3, in places spreading through the papillae diffusely and then invading the epidermis. While there is some invasion of the papillae in Case 1 the cells appear in localized foci or nests, and not as diffuse infiltration.



Fig. 22 (Case 7).—Section from erythematous lesion of skin. Picture is the same as that of erythematous areas in Case 5.

CASE 7.—This case was presented by Drs. MacKee and Wise at a meeting of the New York Academy of Medicine, Dermatological Section, October, 1916. The majority of the members present agreed that clinically it should be considered a clear cut case of *mycosis fungoides*. Dr. Fox suggested, on account of the jagged appearance of some of the lesions, its resemblance to *lichen acuminatus*. The histologic picture was reported as "indefinite."

The following notes are from the history record of the New York Skin and Cancer Hospital:

Mrs. L. W., widow, aged 58. Duration of dermatosis seven years. The first lesions were dark spots, slightly larger than a silver dollar, on the feet

and legs. These spots gradually grew larger. Two years ago lesions appeared on the trunk, and on the arms ten months ago. The lesions are reddish brown, and at times assume a fiery red appearance. They are moderately indurated and in places covered with scales, scaling being especially prominent on the scalp. There are no elevated plaques. Blood findings are normal.

#### HISTOLOGY

Section of a skin punch shows essentially the same histologic picture as the section taken from the noninfiltrated, erythematous area in Case 5, namely, moderate edema and mild lymphocytic infiltration, with considerable hyperplasia of capillary endothelium (Fig. 22).

Here, then, is a case which is clinically a clear cut case of mycosis fungoides and which, though of seven years' duration, presents lesions with histologic features indistinguishable from those frequently seen in the ordinary dermatoses. It should be remembered, however, that the lesions were all of the "erythematous" type, and that, according to the findings in Case 4 (a case proved to be genuine mycosis fungoides both pathologically and clinically), in this stage of the disease the lesion do not present a characteristic histologic picture.

#### BACTERIOLOGY AND BIOLOGY

CASE 1.—Emulsions from subcutaneous lymph nodes (removed by biopsy) were injected intracutaneously into rabbits, guinea-pigs and a rhesus monkey. Small nodules appeared at the site of injection but soon disappeared. Permanent results were negative.

Staphylococci and a diphtheroid bacilli were recovered by culture. Large quantities of the latter were injected from time to time in all the laboratory animals without result.

From the lymph nodes obtained at necropsy the same organisms were recovered together with *Bacillus coli*.

CASE 2.—A suspension of finely macerated tissue from an infiltrated plaque was injected intracutaneously and intraperitoneally into six guinea-pigs and two rabbits.

After three months the animals were killed and necropsied. The results were negative.

Inoculations from this emulsion were made on broth, glucose agar and glycerin-egg media. Some of the tubes were incubated at 37 C. and others kept at room temperature for five weeks. The cultures were negative.

CASE 4.—Inoculations from a skin plaque were made on broth, agar, ascitic agar and unheated human ascitic fluid, and cultivated aerobically and anaerobically according to Noguchi's method for spirochetes. A growth of staphylococcus (epidermis) appeared on all.

The sections from the same plaque stained for bacteria showed the staphylococci located in dense colonies in the vesicles in the corneous layer, but no organisms of any kind in the corium. Scrapings from the tissue were also examined by the "dark field" method for spirochetes with negative result.

CASE 5.—Ten c.c. of blood serum was injected intravenously and 3 c.c. subcutaneously into a baboon. The animal is still living (after eight months) without untoward results.

CASE 6.—A suspension of finely macerated tissue from a plaque was injected intracutaneously and intraperitoneally into three guinea-pigs and three rabbits, and intracutaneously and subcutaneously into one rhesus monkey. The results were negative.



Cultures from the suspension showed a slow feeble growth of a gram negative diplococcus belonging to the catarrhalis group. Injections of this organism into animals were without result.

#### SUMMARY

In the study of these cases the diagnosis was made on clinical grounds alone, and rested on the consensus of expert dermatologic opinion. No case was excluded because the histologic picture of the lesions did not correspond to some preconceived idea of what the pathology of mycosis fungoides should be, as might have been done in one of the cases throughout its whole course, and in the earlier stages of some of the others. In this way, I hope I have avoided the errors arising from the use of the vicious circle—which is too commonly taken advantage of—involved in settling the diagnosis by reference to the histology of the lesions, and then allowing this histology to stand in the literature as an instance of the pathology of mycosis fungoides, because it was found in a genuine case of the disease. On the contrary, these observations have been conducted on the presupposition that the pathology of mycosis fungoides is not sufficiently well known to enable one to say whether it is the same in all cases or in the different stages of the same case.

Having made clinical and pathologic observations in this independent way, I may now try to sum up the contributions which I think this study may make towards the solution of the various problems which have traditionally puzzled dermatologists in connection with the interpretation of mycosis fungoides, and I shall treat these questions as briefly as possible in the following order:

#### ETIOLOGY

1. The results of the bacteriologic and biologic investigations, though conducted carefully and extensively, must be recorded as negative.

2. Is mycosis fungoides a disease *sui generis*, or merely the “end process” of other dermatoses, such as eczema, psoriasis, parapsoriasis, etc.?

This question was thoroughly discussed at a recent meeting of the dermatologic section of the Royal Society in London, and the consensus of opinion among the members present was that mycosis fungoides should be regarded as a disease *sui generis*. This conclusion, however, was based largely on the presumption that the disease presents a pathologic picture from first to last which is essentially different from that of any of the other dermatoses. Though not denying the truth of the conclusion, we are compelled to observe that the particular reason given in support of it is contradicted by the findings in some of our cases. In Case 5, for instance, sections taken from



"erythematous" areas cannot be positively differentiated from several sections in our possession of psoriasis and parapsoriasis. So, too, in Case 7, after the duration of the disease for a period of seven years, sections taken from the various lesions and at different times show no histologic features that may not be found at times in either of the dermatoses just mentioned. While speaking of this question I may briefly refer to a clinical custom based on the presumption that mycosis fungoides is specifically different from the other dermatoses, and that is the ruling out of the diagnosis of mycosis fungoides if the lesions disappear under ordinary treatment. Whether the presumption be correct or not, the custom frequently leads to error. In one of our most typical cases the lesions disappeared at the end of the first year, and the skin remained free for a period of one and one half years. In the literature, too, can be found numerous instances of disappearance and abeyance for long periods of true mycotic lesions following the application of some ordinary lotion or unguent.

3. Is mycosis fungoides an inflammatory or a neoplastic process? It is doubtful how much reliance should be placed on the older reports scattered here and there in the literature of metastatic nodules of sarcomatous type found in cases of mycosis fungoides. Unquestionably, many of these can be put down as cases of independent malignancy. It is significant that in the extensive experience of Kaposi, only one case has been reported. Kaposi, from a study of this case, was led to believe that mycosis fungoides was a sarcomatosis of the skin, but Paltauf, who seems to have had personal knowledge of this case, was equally convinced that the sarcomatous nodules should be regarded as an independent process. Paltauf and von Zumbusch, in their latest work, report two cases with lesions in the internal organs corresponding exactly to those in the skin, which they interpret as "granulomatous lesions" and in no way resembling neoplastic processes.

Of the seven cases here reported, the pathologic changes in two show some features suggesting neoplasm, namely, the striking nuclear changes in Cases 1 and 2, consisting in unusual enlargement, irregularity in shape and chromatin content, frequency of mitotic figures, and sometimes rapid amitotic division with the formation of multinucleated and myeloid giant cells (Figs. 4, 7, 9 and 14). But too much stress should not be laid on these features as indications of tumor growth. Mitotic figures in connective tissue cells and lymphocytes as well as irregular morphologic changes in cells of the lymphocytic series are not uncommon in processes which are undoubtedly of infectious origin. In fact, the histologic features in these cases, which suggest neoplasm, are precisely those which constitute the characteristic marks of the lesions in Hodgkin's disease, and perhaps for the present the most

acceptable interpretation of these two cases would be to classify them as unusual manifestations of the latter disease. The lesions in the lungs and spleen in Case 1 show none of these "tumor-suggesting" features. No one could see in them anything but "subacute inflammatory" or "granulomatous" changes (Figs. 11 and 12). The changes in the bone-marrow also can be best interpreted as representing regenerative hyperplasia in response to injury by some infective agent or possibly to some constitutional defect. So, too, is it in the case of many of the lymph nodes. It looks, then, as if the lesion in these two cases commenced as a truly inflammatory process which in the course of its development begins to show features of tumor growth which might, we conceive, finally preponderate so as to present the picture of simple neoplasm. Such, we know, sometimes happens in Hodgkin's disease, as in the cases reported by Douglas Symmers and others. And I might here refer to a section given to me from a case studied at another clinic as a genuine case of mycosis fungoides. The section shows a typical picture of large round-cell sarcoma. Unfortunately, I was unable to trace the case for further verification.

As to the question, then, whether mycosis fungoides is an inflammatory or a neoplastic process, as far as these two cases are concerned, I can agree with those who claim that it partakes of the nature of both, but that in the stage under observation the inflammatory features predominate.

I think, also, that I am justified in pressing the claim that our observations contribute something definite towards the correct interpretation of the nature of the large cells which are characteristic of the histologic picture in these cases. It has been suggested on purely morphologic grounds by Strobel and Hazen, that these cells, which are so commonly reported as a characteristic feature in mycosis fungoides as well as in Hodgkin's disease, are morphological variations of the myeloblast and myelocyte. We have demonstrated that they give a negative oxydase reaction, and as all cells of the myelocytic series, including the nongranular myeloblast, give a distinct positive reaction, we feel justified in excluding the interpretation of the cells in question as of myeloblastic origin. This, together with other considerations noted in the text, lead us to believe that they belong to the lymphocytic series.

Of the remaining five cases, two, namely, Cases 4 and 5, show a practically identical histologic picture both as to the character of the cellular infiltration and its distribution. There is nothing in this picture that suggests neoplasm. The character of the lesion lends itself most readily to interpretation as a subacute inflammatory process, possibly an earlier phase of that seen in Cases 1 and 2. Possibly, too,

it might be interpreted as a "leukemic" infiltration, provided other factors such as blood picture, etc., were present. The infiltration in these cases, however, is somewhat different in its distribution from that in two cases accompanied by definite leukemia, one reported by Pardee and Zeit, and the other by Shaw and Loughlin. In the leukemic cases the infiltration is most marked deep down in the corium and is not present in the papillæ and papillary layer; whereas, in our cases it is most dense in the papillæ and upper part of the papillary layer.

In Case 6, as has been pointed out in the text, the general features of the histologic picture are the same as in Cases 4 and 5, but scattered here and there are cells which show nuclear changes comparable to those which are characteristic of the histology in Cases 1 and 2. It seems justifiable, therefore, to classify the lesion in this case as a transitional stage between the types of lesion represented in the groups of cases composed of Cases 4 and 5 and 1 and 2, respectively.

In Case 3 the histologic picture of plasma cells, lymphocytes and eosinophils could not possibly suggest anything but a subacute or chronic inflammatory process, and so, too, in Case 7, the histologic features can only be interpreted as those of a mild low-grade inflammation.

#### DIFFERENTIAL DIAGNOSIS

*Clinical.*—I have already called attention to the more or less general involvement of the lymphoid tissue in all my cases and of the bronchi in two of them. If, as is strongly suggested by my observations, mycosis fungoides is not limited to skin manifestations, but is a disease with general involvement especially of the lymphoid tissue, any evidence of such involvement would constitute a factor of prime importance in differentiating it from the diseases with which it is most liable to be confounded.

*Histologic.*—It would seem from our observations that it is only in the "infiltrated plaque" or tumor stage that mycosis fungoides can be positively differentiated on histologic grounds from the ordinary dermatoses, such as psoriasis or parapsoriasis. Outside of the "neoplastic" features above described, and which frequently are not present, the essential difference seems to be one of degree of the edema and cellular infiltration in the corium. In several sections compared, the changes in the epiderm were variable and frequently the same in both. It does seem, however, that with the same degree of change in the corium, epidermal changes, especially parakeratosis, are much less apt to be present in mycosis fungoides. Earlier than the plaque stage should characteristic epidermal changes be absent, a differential diagnosis could not be made. In one case of parapsoriasis, and in one case of psoriasis, the edema and cellular infiltration in the corium were more

marked than in the erythematous stage of one of my cases of mycosis fungoides, and the distribution of the exudate the same as in four of the cases.

From the ordinary granulomas it may be distinguished by difference in character and distribution of the exudate, as well as in the degree of the reaction on the part of the tissues. In short, the differential points handed down in the literature are confirmed by my observations.\*

I wish to thank Drs. Wm. B. Trimble, Douglas Symmers, Charles Norris, Charles B. Dunlap, and my brother, Dr. Alexander Fraser, for their kind cooperation in the preparation of this paper.

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#### BIBLIOGRAPHY

- Alibert: Description des maladies de la peau, 1806, p. 157, plate 36.  
 Alibert: Monogr. des dermatoses, Paris, 1835, 2, p. 413.  
 Vidal and Brocq: La France Médicale, 1885, 2, pp. 946, 957, 969, 983, 993, 1005, 1018.  
 Köbner, H.: Klinische und experimentelle Mittheilungen aus der Dermatologie und Syph. Erlangen, 1864, p. 37.  
 Sequeira: Brit. Med. Jour., 1914, 26, p. 213.  
 Duhring: Arch. Dermat., 1879-1880, 5, p. 1.  
 Kaposi: Skin diseases, 1895.  
 Sequeira: Brit. Jour. Dermat., 1914, p. 213.  
 Paltauf and von Zumbusch: Arch. f. Dermat., 1913-1914, 118, p. 699.  
 Radaelli: Arch. di Biol. norm. et patol., 1911, 65, p. 217.  
 Pardee and Zeit: Jour. Cutan. Dis., 1911, 29, p. 7.  
 Strobel and Hazen: Jour. Cutan. Dis., 1910, vol. 29.  
 Symmers: "A New Interpretation of the Pathological Histology of Hodgkin's Disease," Arch. Int. Med., June, 1917, 990-996.  
 Stelwagon: Textbook, 1916, p. 945.  
 Ormsby: Textbook, p. 816.  
 Galloway and McLeod: Brit. Jour. Dermat., 1900, 12, p. 153.  
 Auspitz: Quoted from Sequeira, Brit. Jour. Dermat., 1914, p. 214.  
 Symmers, Douglas: Certain Unusual Lesions of the Lymphatic Apparatus. Arch. Int. Med., September, 1909, p. 218.  
 Shaw and Loughlin: Brit. Jour. Dermat., 1917, p. 36.

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\* This paper by Dr. Fraser, the paper by Dr. Wise, published in THE JOURNAL for October, 1917, and the paper by Dr. Cole, published in *The Journal of the American Medical Association*, Aug. 4, 1917, comprised a symposium. The discussion following these articles will be found in the Transactions of the Dermatological Section of the American Medical Association for 1917.



## THE PROBLEM OF HYPERTRICHOSIS \*

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The purpose of this paper is to consider the question of hypertrichosis from the viewpoint of a considerable experience and to endeavor to clarify if possible the rather murky present-day status of the disorder. If an apology is necessary for the selection of this subject for discussion, it may be said that for every dermatologist this disagreeable abnormality is like Hamlet's ghost: it will not down; or like Lady Macbeth's blood-spot: it will not out. For him there is no escape, and no doubt he feels tempted at times, when these cases present themselves, to express his feelings in language similar to that of Lady Macbeth in her somnambulistic efforts to make herself presentable.

That hypertrichosis is a problem cannot be disputed. That it is one which dermatologists have constantly before them and which they love to sidestep must also be admitted. Why it is a problem and why it is disliked by the specialist to whom the condition logically comes, are points easily explained. First, hypertrichosis in some degree is relatively common; secondly, the condition is regarded universally by women with intense repugnance, and relief from an abnormality so distressing to them is sought from the skin specialist sooner or later; lastly, the dermatologist knows that ideal relief is all but impossible and that the requirements for tolerable relief are often difficult to meet. The result is that the treatment of this disorder, especially the early treatment, has passed largely into nonmedical hands, which fact is not for the good of the patient and does not reflect great credit on our specialty.

The persistency and determination which mark the efforts of women to secure relief from their excessive hair growth indicates that the ultimate compelling motive is exceedingly powerful. The fact that the presence of hair on the face in the male and the absence of the same in the female are both secondary sex characters shows that this motive has its basis in the sex element of human nature. The woman afflicted feels herself an object of repulsion to the opposite sex, and as a result, set apart from the normal members of her own sex. She realizes that she bears a stigma of the male and that she does not run true to the female type; therefore, every female instinct

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in her demands that the thing that marks her as different from other women be removed. This demand is intense and insistent, and if it is not met, the course of the victim's life is often profoundly and adversely influenced. To one who has seen many of these cases the story of an existence made narrow and limited, of opportunities passed by, of self-imposed seclusion, and even of contemplated suicide is not unusual. There are good reasons, therefore, why very definite efforts should be made to relieve this class of dermatologic cases.

In a preventative way that which may be done is dependent on the etiology of the disorder. Practically all cases have in their causation one or more of the following factors: (1) heredity; (2) ill-chosen treatment; (3) antecedent inflammatory dermatoses, and (4) disturbances of function of certain of the endocrinous glands.

I have found that heredity is the most frequent factor. The condition is seen very often in several members of the same family, and may be traced in the lateral branches of the same stock. A racial tendency is observable, notably in those of Jewish and of Celtic extraction. Ill-advised attempts to relieve a mild condition of hypertrichosis may be considered the second most common cause in the production of the severe types. Though practically always secondary, this factor usually becomes the most important of all. In this direction are to be seen the harmful effects of the commercialized activities of the beauty parlor and the beauty column of the newspapers. Antecedent chronic inflammation must be accepted as a fairly common cause. Facial hair growth is frequently seen following prolonged and severe acne; in fact, so commonly has this been observed that a point in the treatment of acne has become almost axiomatic, namely, that nothing shall be used that might contribute to facial hair growth.

The inferential presence of sex in the emotional reaction to hypertrichosis suggests the possibility of sex factors in the etiology. As the whole subject of sex is fundamentally and most intimately related to the functions of the ductless glands it seems probable that in these something might be found that would bear directly on the subject under discussion. In two instances the writer has observed what appeared to be a clear relationship between severe hypertrichosis and ductless gland disturbance. The two histories were similar; both were young women and coincident with a gradual diminution and final cessation of menstruation, there appeared a decided increase in body weight and a marked development of facial hair growth. Such a syndrome could scarcely fail to direct attention to the gonads.

This subject—the relationship of the endocrinous glands to the activities of the pituitary system—is a fascinating one, difficult to explore, but full of possibilities. It is one that dermatologists should survey more carefully than has been their usual custom, since it con-

cerns loss of as well as overgrowth of hair. How many, for instance, in prescribing for an alopecia, give even a passing thought to the possible influence of the endocrinous glands in the case?

The glands which have been proven experimentally to be related to the pilary system are the thyroid, the hypophysis, the suprarenals and the gonads. Leopold-Levi<sup>1</sup> summarizes this relationship as follows:

(a) The thyroid has an essential action on the hair growth of the scalp, the eyebrows, and the eyelashes.

(b) The ovaries and testicles have an essential action on the hair growth of the pubic and axillary regions.

(c) The testicles in addition have a direct action on the hair of the body, the beard and the upper lip.

(d) The hypophysis and the adrenals, indirectly through the testicles, influence the body hair, exclusive of the scalp region, the eyebrows and eyelashes.

To explain all the findings with reference to ovarian secretion it has been necessary to assume<sup>2</sup> that the ovary is essentially an hermaphroditic organ of which a part is "femininogenetic" and a part "virilogenetic." The former normally predominates, insuring to the individual the sex characters of the female. The latter is analogous in action to the testicle, and should its influence become predominant, a partial suppression of the female sex characters results, with a development of those of the opposite sex, among which must be counted facial hypertrichosis.

With the above etiologic facts in mind, an estimate can be made of what can be done in the direction of prevention.

Hereditary tendencies cannot be influenced by any scheme of treatment. The patient who belongs to this group stands in great need of sound and conscientious advice when the condition first begins to show, if she is to escape more distressing experiences in the future.

It is very difficult to prevent the common practice of "tinkering" with a slight hair growth. Early recognition and thoughtful consideration by the mother of her daughter's problem, combined with sane advice from a dermatologist, offers the best solution. But this combination of agencies is rare, and when found has usually been put into operation after more or less harm has been done.

Prompt relief of acne by carefully considered methods would undoubtedly prevent the development of a fairly large number of these cases.

A more careful study of ductless gland possibilities in severe cases is distinctly demanded. Such a study in many instances will be difficult, since it involves a type of inquiry which might be quite distasteful

1. Leopold-Levi: Bull. et mém. Soc. méd. d. hôp. de Paris, 1913, 3s. 31, p. 956.

2. See Footnote 1. Swale, Vincent: Internal Secretions and the Ductless Glands, London, Edward Arnold, 1912, p. 76.

to the patient. On the other hand, her state of mind might cause her to favor any investigation which promised help. How far a discovered abnormality of internal secretions could be met by medication would have to be worked out. If, for instance, the theory of the hermaphroditic nature of the ovary be true, the administration of ovarian substance, in cases similar to those previously cited, might be entirely without result; whereas extract of corpus luteum, representing presumably the "femininogenetic" element of the ovary, might influence the condition favorably. The therapeutic value, if they possess any, of thyroid, hypophyseal, and suprarenal medication in these cases is not yet determined.

Of the numerous methods which have for their object the removal of hair, only a few have any claim to the term curative. The remainder are merely palliative if not actually harmful. Clipping, shaving, the use of depilatories, epilation, attrition with pumice stone and bleaching cannot possibly do away permanently with the hair growth; at best, they can serve only a temporary purpose. For permanent removal, electrolysis, the roentgen ray, the Kromayer method, and radium have been used effectually. But no method is ideal. Electrolysis has been in use the longest and is without doubt the least objectionable. The Roentgen ray and radium which acts similarly, will do the work, but in the dosage required to permanently remove the hair, they are certain to damage the skin so seriously as to make their employment for the purpose distinctly ill-advised. The circular knife method of Kromayer is promptly effectual—in fact, it is the most certain of all—but it is painful, very bloody, and inevitably scar-forming. It has never come in vogue in this country and probably never will.

The objectionable features of electrolysis are several, and of considerable importance. It is a slow and tedious method, trying to both patient and operator. It is not usually immediately efficacious, since many of the hairs return after the first removal. Being time-consuming, it is relatively expensive even though a modest charge is made; for this reason the treatment is often beyond the means of many who need it. On the other hand, the work is sufficiently trying on the operator to warrant a tangible fee.

The first objection cannot be overcome entirely. The nature of the procedure requires that the movements of the operator be deliberate and painstaking. The use of multiple needles may seem to speed up the process, but in the long run that technic has no advantages over the use of the single needle. Besides being more painful the multiple needle method is mechanically wrong, since, because of the slack in the cord and the weight of the needle-chuck, it will not permit the needle to stay where placed during electrolysis without being held there by the hand of the operator. This being the case, to be effectual it



becomes a single needle method. There can be no substitute for the steady hand of the operator in "catheterizing" the hair follicle and maintaining the needle in proper relationship to the structures to be destroyed.

The second objection touches the heart of the problem. The fact that any hairs return — it matters not what percentage — is always disconcerting to the patient. She reasons that if they come back once they will come back always. The logic is fallacious, since a partially destroyed follicle may be able to develop a return once or twice before undergoing atrophy. Moreover, experience shows that with persistent and skilful use of the needle, the hair is destroyed.

There are several factors concerned in the return of hair after removal with the electric needle. The entire matter turns on the insertion of the needle and the amount of current used. Concerning these points there is much that is uncertain and nothing that can be managed by rule; for guidance the operator must depend on his judgment based on previous experience. In inserting the needle the gentlest pressure must be used lest in the angling follicle the point penetrate the sides and miss the vital structures; one is working in the blind and must depend on the sense of touch to guide him to the follicle base. After the needle is placed, the amount of current to pass in order to destroy the hair without producing a scar is a very real problem. Many women do not object to scarring; others will have none of it. It is practically imperative that one proceed on a nonscarring basis; yet it is perfectly clear that an amperage that results in a scar at the skin surface is much more apt to destroy effectually the deeper structures of the hair follicle. Hence the operator is in a delicate position: if he uses insufficient current the hair returns and he is criticized; if he employs too much current, scars may result and again he is blamed. To avoid these rocks he must be careful, painstaking and experienced, and must not allow himself to be stampeded into hasty, careless work. When in doubt he must choose a conservative course, although it may mean a larger percentage of returns, a slower attainment of ultimate success and a seemingly greater expense to the patient.

If a needle could be devised which would be insulated to one-sixteenth of an inch from the point, yet slender enough to permit easy passage through the follicular opening and stiff enough to bear some resistance, a heavier current could be used with entire safety from scarring.

In endeavoring to steer a safe course the writer has found two guide-points, evolved from a long experience, to be of great assistance, namely, that the appearance of a minute circular vesicle about the follicular orifice is a sign that electrolysis must be interrupted if scarring is to be avoided; further, that  $1\frac{1}{2}$  milliamperes is the safest and most

effectual amount of current to use consistent with reasonably rapid work. More current is apt to lead to scarring, less will prove ineffectual unless compensated for by an increase in the time of exposure.

It is obvious from the foregoing that several factors contribute to make the process of electrolysis a slow one, even though the operator work industriously, carefully and skillfully. This means that the relief of severe cases requires time and is essentially an expensive matter. It means, too, that many dermatologists cannot give these cases their personal attention. How to meet this phase of the problem must be left to the judgment of each man. It is certain that every patient should know the facts, pro and con, with reference to electrolysis for hypertrichosis, so that she may choose her course of action knowingly.

#### SUMMARY

The points which should be emphasized are these:<sup>3</sup>

Hypertrichosis is an abnormality which is extremely distasteful to women and which is and will be constantly coming to the dermatologist for treatment.

Although dermatologists do not look with favor on these cases because of the difficulty of relieving them, there are good and sufficient reasons why they should aid these patients in every way possible.

Careful consideration of the etiology in each case may show that much can be done in a preventative way; and in this search for etiologic factors, for the sake of scientific advancement in our knowledge of hypertrichosis, more attention should be given in all cases to endocrinous gland possibilities.

Of all methods for the permanent removal of superfluous hair, electrolysis remains the best, though it is far from ideal. Objections to the method probably will never be completely removed, but they

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3. See for general discussion: Brand: *New York Med. Jour.*, 1913, 97, pp. 706-709; Freshwater: *Practitioner*, London, 1913, 90, pp. 825-840; Cane: *Eugenic Review*, London, 1913, 4, pp. 257-283; Belot: *Arch. de elect. méd. expér. et chir.*, Bordeaux, 1912, 21, pp. 177-195; Geyser: *JOUR. CUTAN. DIS.*, 1912, 30, p. 219, and *Am. Jour. Dermatol. and Gen.-Urin. Dis.*, St. Louis, 1911, 15, pp. 574-377; Baum: *Jour. Am. Med. Assn.*, 1912, 49, pp. 104-106; Saalfeld: *Med. Klin.*, Berlin, 1912, 8, pp. 735-738; Schwender-Trachsler: *Arch. f. Dermat. u. Syph.*, 1912, Orig., 109, pp. 67-76; Burt: *Science*, New York and Lancaster, 1910, 13, pp. 854-858; Fugino: *Sei-i-Kwai Med. Jour.*, Tokio, 1911, 30, No. 8; Paschkis: *Wien. med. Wehnschr.*, 1911, 61, pp. 369-448; Bathhurst: (*Treatment by Electrolysis*), *Practitioner*, London, 1915, 95, pp. 684-687; Weil, A.: *Paris médicale*, 1912-1913, 11, pp. 551-553; Bechet: *New York Med. Jour.*, 1913, 97, pp. 313-316; Dubreuilh: *Presse méd.*, Paris, 1912, 20, pp. 775-777; Weidenfeld: *Wien klin. Wehnschr.*, 1911, 24, p. 94; Sandek and Novak: (*Treatment by X-Ray and Radium*), *Wien. med. Wehnschr.*, 1914, 64, p. 680; Speder: *Strahlentherapie*, Berlin-Vienna, 1913, 3, pp. 314-332; Heidingsfeld: *Lancet-Clinic*, Cincinnati, 1916, 116, p. 305; Rayner: *Brit. Med. Jour.*, 1912, 2, p. 480; Sairl: *Lancet*, London, 1912, 2, p. 513; Stein: *New York Med. Jour.*, 1912, 95, pp. 21-23; MacKee: *JOUR. CUTAN. DIS.*, 1917, 35, p. 171.

can be greatly reduced in the hands of careful and experienced operators.

For the mutual benefit of both consultant and patient, the latter should be told frankly the full situation with respect to her hypertrichosis so that she may act with fore-knowledge.

#### DISCUSSION

DR. RUGGLES said that in regard to the multiple needle instrument, he had been using it for several years and in certain cases it had great advantages. In the case of large hairs he could remove them rapidly with this instrument and finish up a case in shorter time without any extra scarring and without more pain than by one needle alone. He recalled the case of a young woman who treated a goiter with a salve. He did not know the nature of the salve, but she had a rather profuse growth of hair over the gland and nowhere else on her face. It seemed to him it was evident that the salve had something to do with the development of the hair.

DR. PUSEY said he did not know why Dr. McEwen apologized to him. He gladly accepted the apology because of his clear explanation of the etiology of this disease.

In taking up the etiology of hypertrichosis he was glad Dr. McEwen brought up the matters of disturbance of metabolic function and the endocrinous system because they were suggestive and made one think about them, and even if we were not in a position to arrive at a definite conclusion, it was worth while drawing our attention to these things and how we were going to get there. In regard to the treatment of hypertrichosis, he felt that the roentgen ray should be given up as impractical. He had had a curious experience. He bought the first roentgen-ray outfit to remove hairs from a particular patient and he had a result that had been permanent up to the present time, but he had never had such a success since. Once in a while he obtained a good result with the roentgen ray, but it was not a safe procedure in this class of cases, in his opinion.

DR. DAVIS said that we should tell patients with hypertrichosis what they were to expect. He had done a great deal of this work, and he thought we should tell a patient that if the treatment was properly carried out, 70 to 80 per cent. of the hairs will stay away. There will be 20 per cent. recurrences. He was able to satisfy patients this much, that if we removed 75 per cent. of the hairs and 20 per cent. of these came back, they will not hold us responsible if they did come back. He did not believe on an average any one could do better than 80 or 85 per cent. without recurrence of the hairs.

DR. WISE said he was fully in accord with the statements made by Dr. McEwen, but he did not consider the problem of treatment of hypertrichosis insurmountable in many cases, and this was particularly so in wealthy women who had plenty of time. We could take our time in treating these cases, using an amperage of low intensity as Dr. McEwen advised, with less tendency to scarring. In New York they had established a separate department at the Vanderbilt Clinic for the treatment of hypertrichosis in poor patients. The speaker said that in the last three years he had had four cases of hypertrichosis in patients who had extensive superfluous hair and enlarged thyroid, marked obesity and infantile uterus, all in virgins. That syndrome occurring in four patients within three years was, he thought, a rather remarkable finding.

DR. LIEBERTHAL said he would like to call attention to the etiology of hair as it occurred on the extremities of women. He had frequently observed hypertrichosis in young women who were in the habit of staying in the water very long when bathing and sunning themselves. In these cases the actinic rays as well as the other rays from the sun stimulated growth so that there was a considerable development of hair. He believed it was absolutely wrong to treat these patients longer than ten or fifteen minutes at a time. All we needed



to do was to remove the hair. If the treatment was continued for forty-five minutes or an hour, we tended to stimulate the growth of hair. It was better to use, say a number of treatments at shorter intervals, than to use long treatments, as by so doing we could accomplish good results by painstaking work. Dr. Davis had said that in 20 per cent. of the cases after treatment there would be a recurrence of the hair. He would go a step farther and say half of them would recur, but they might be removed again. We had to do that if we would benefit the patients. The patients came to us for relief and if we did not give them the relief they desired, they would go to the so-called beautifiers, and some of these people did excellent work.

DR. HARTZELL said there were a number of things which might be mentioned in connection with this subject. He did not believe that in any case, in which there were considerable hairs, it was possible to remove them permanently without scarring. Moreover, he thought we should be altogether fair with our patients, perhaps because he detested this operation, and he advised women who had a small growth of hair to leave it alone. Usually they did not let it alone; they went to someone else, but he thought that was good advice to give them. The speaker thought we ought to place ourselves on record about the use of certain agents. He had very grave doubts whether it was justifiable to employ the roentgen ray or similar remedies for the treatment of the class of lesions under discussion and for defects. The risk was too great and he did not think we ought to assume any such risk as that.

DR. McEWEN said that, regarding the use of multiple needles, he had not used multiple needles to any great extent. He undertook to use them once. He said the reason that this method was more painful was this: The painful moment in electrolysis was while the needle was being introduced when the current was on. When the operator had multiple needles, if he was going to manipulate them to prevent pain, he was going to lose time. With the multiple method the needle head could not be placed so as to get the needle to stay firmly in situ, without wabbling to one side. As to the return of hairs, there was certainly going to be a return of them, but he thought it was extremely difficult to say in what percentage of cases they would return. That sometimes depended on the case. If you get a heavy hair growth you will not destroy the hair as rapidly as if it were a slight growth. Twenty per cent. of recurrence was all right, but he suspected that in many instances it was nearer to 50 per cent. It was a very hard thing to say to a lady that there was going to be some return of hair; but after the second or third removal the recurrences were greatly reduced. The problem of removing hairs in rich patients was not so great because they could pay and could pass through treatment without taking the full current of  $1\frac{1}{2}$  milliamperes. He gave that amperage simply with the idea that it represented a point beyond which we had better not go, and if the physician intends to do effectual and rapid work he cannot go much below that. Probably 1 milliampere would do pretty well. When a one-half a milliampere was given the operator did not get along very fast, and with the poor people that counted. Even if a very low price per hour for treatments is made, the poor could not pay it.

So far as clinical work was concerned, he did not think the problem of the poor could be solved in the clinics.

As to the question of short treatments, if it is an extensive case of hypertrichosis the operator could never get through with it in fifteen minute treatments. The objection Dr. Lieberthal raised could be met by scattering treatment over the entire surface, but he had not felt convinced that treatment had a great deal to do in the matter of stimulating the neighboring hairs. It should be considered a possibility, but it was not something that was constantly demonstrated.

The speaker agreed with Dr. Hartzell that in extensive cases requiring long treatments we did not get the hair off without having some evidence of scarring in the form of small atrophic spots resulting from electrolysis.



# THE PREOPERATIVE REDUCTION OF EPITHELIOMA BY ROENTGEN RAYS OR RADIUM

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AND

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A primary radiation with radium is now an accepted principle in the operative treatment of cancer in certain situations, as, for example, of the uterus including its cervix, of the vagina, of the rectum, of the tongue and even of the lips. This principle may be made use of in cancer of the skin, and by it in some cases the resulting scarring and deformity may be notably reduced, also cancers justly regarded as inoperable, may be brought well within the limits of more easy eradication. The following case is a good example of what may be attained by employing the roentgen rays within the limits in which they act beneficially.

## REPORT OF CASE

A man, aged 91 years, consulted us on account of an epitheliomatous ulcer occupying almost the whole left side of the nose. It had begun some years previously as a seborrheic patch, of which he had a great number on the face and on the backs of the hands. His relatives brought him to us with no hope of cure, but with a desire that something might be done to relieve the disfigurement and the repulsiveness of the affection, and thus prevent it interfering with the happiness and comfort of his declining days.

It was impossible to curet the whole lesion, as the shock probably would have killed the patient. He was first given five roentgen-ray exposures of thirty minutes each, from a medium tube at 4 inches distance, spread over a period of twenty-two days, after which there was a marked reaction with flattening of the edges of the lesion. By December 14, there was decided improvement, and on this day we gave him another roentgen-ray exposure of thirty minutes directed into the deep portion of the ulcer near the eye.

On December 21, we were able to curet the area nearest the tip of the nose, after which we applied the roentgen rays to the raw surface for thirty minutes, and then swabbed it with the acid nitrate of mercury.

On December 28, the surface nearest the eye was treated in the same manner, a procedure that previously we would not have dared to attempt.

By January 25, everything was healed but the upper part of the ulcer. On April 4, we had to curet this also, and on doing so we came down on uncovered bone, and besides this there was a cushion-like ridge above the edge of the ulcer which we scraped away. The raw surface was exposed to the roentgen rays for thirty minutes, and then chromic acid crystals were poured on and pressed in. The resulting crust came away the following month, and during May, June, July and August we gave in all 125 minutes of roentgen-ray exposure in broken doses. In the meantime some small pieces of necrotic bone were exfoliated, and the lesion healed entirely, leaving a small hole leading into the nasal cavity.

At no time was the patient seriously incommoded by the treatment, and the pain occasioned by the procedures was obtunded to a bearable degree by infiltrations of weak cocaine solution.

There is a curious type of mind which demands that one disease should have one kind of treatment, and which refuses absolutely to consider the physical properties of the therapeutic agents which we employ. With such people the treatment of disease is not a policy, it is a creed, and this is the attitude which it is wished to avoid. For instance, if the roentgen rays had been relied on entirely in the above case just cited they would have failed. They would not have been thoroughly effective through the thick layer of cancerous tissue. If a too strenuous attempt had been made to render them effective, they might have irritated the cancerous growth instead of controlling it. Another mistake would have been to attempt the reduction by the roentgen rays alone, of the roll of cancerous tissue at the upper border of the ulcer. Such a course would have injured the intact external epithelial layers without absolutely annihilating the subjacent epithelial infiltration.

Valuable as the roentgen rays are in the treatment of epithelioma of the skin there is also no doubt of the deceptive nature of a healing depending wholly on them. The theory of their action and of the action of radium in this disease is the same. As the young cells of the neoplasm divide, the rays strike them at this tender period of their development and kill them. When this theory is borne in mind, a prolonged moderate, rather than an intensive short, treatment with roentgen rays is preferable. It is possible that because it is steadier and more prolonged that radium is better than roentgen rays in these forms of radiant energy, which are so alike in their therapeutic action. Nevertheless, from the very nature of things some cells may escape or be only inhibited, and the following case is an instance of how deceptive the result of roentgen-ray treatment may be:

An attorney, aged 50 years, was referred to us, July 14, 1911, because of a crateriform epithelioma situated just above the tip of the nose. It had begun seven years previously as a small red spot. Roentgen-ray treatment was started, with the intention of reducing the size of the lesion and then curetting it. The reaction obtained was intense and after its subsidence the result was so good that further treatment was considered unnecessary.

Three years afterward the patient wrote that the scar was intact, but that it was mottled red and showed a tendency to scale. Shortly after this, March, 1915, the patient returned with a recurrence about the size of the end of a lead pencil. This was curetted down till a solid stellate scar was reached, and the raw surface was burned with crystals of chromic acid. Four weeks subsequently, after the scab produced by the cauterization had sloughed off, roentgen rays were administered to the raw surface, and the lesion healed with a pliable, white, thin scar.

This regrowth under the scar was of particular interest, and was quite different from those recurrences which are seen at the edge of a

scar. These latter are frequently little foci, so small at the time of operation on the main lesion as not to be clinically apparent. Not being apparent they cannot be treated and therefore their occurrence is unavoidable. The regrowth under the scar in the present instance was of an entirely different nature and was due to inefficient treatment. The first course of the roentgen rays had annihilated the superficial epitheliomatous cells, but the very deep cells were not killed, they were only inhibited and after a time began to grow under the full extent of the scar.

What may be achieved by the use of roentgen rays or radium is so wonderful in suitable cases as not to require any embellishment. These remedies, however, must not be employed beyond their potentialities, nor should the physician, because these potentialities are so effective, neglect the consideration of other potent therapeutic agents.

# Society Transactions

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## CHICAGO DERMATOLOGICAL SOCIETY

*Annual Meeting, Jan. 16, 1917*

UDO J. WILE, M.D., *Chairman*

### LUPUS VULGARIS ERYTHEMATODES. PRESENTED BY DRS. HARRIS AND STILLIANS

The patient was an Irish building contractor, aged 73 years. The present trouble started when he was 67 years of age, after the patient was scalded by steam.

The lesions consisted of maculo-papules, giving the typical apple-jelly appearance, aggregated in a patch covering nearly the whole left side of the chest, anteriorly. Other large patches covered both cheeks with approximate symmetry. Smaller groups of lesions were found on the scalp, trunk and arms. Atrophic scars were present at the center of the patches. No ulceration had been seen at any time. The only subjective symptom was itching.

#### DISCUSSION

DR. SUTTON considered the case an extremely interesting one, and said that this type of lupus vulgaris was comparatively rare in America. Examples of disseminated lupus, following varicella and other exanthematous diseases, were not uncommon in England. He had encountered but one other case of the disseminated type in America.

DR. PARDEE reported another case of the same sort which was disseminated over the entire body. The patient was a woman of 40.

DR. PUSEY said he had seen another case, also in an old man, which was practically a replica of this one. Both showed very excessive areas of lupus vulgaris of the erythematoid type. He had seen no other cases but the resemblance between these two was remarkably striking.

### CASE FOR DIAGNOSIS. PRESENTED BY DR. ORMSBY

The patient was a man, aged 70. The lesions had been present for about sixteen months. The disorder began as an eruption on the dorsi of the hands and resembled a "pimple." The itching was severe at times. There was no appreciable etiologic factor.

There were symmetrical lesions on the dorsi of both hands, 7 cm. in diameter. On the right hand they were circular, on the left hand quadrangular. The involved areas were elevated, well defined, yellowish-red, with well defined margins. Under the diascop, all color faded. Microscopic sections revealed great increase in vascular elements. No change had been seen under treatment of several months' duration.

#### DISCUSSION

DR. HEIDINGSFELD classed the case as an obscure dermatosis which beggared accurate classification. Microscopically, the excessive amount of collagenous connective tissue was suggestive of scleroderma, save for the excessive and deep-seated vascularity.

DR. RAVOGLI thought that taking all the symptoms and considering the persistence of the affection, it could be referred to the syndrome of Pick. Of



course there was an atrophic condition, and the atrophy beginning after the congestion had remained a long time. He had had one or two cases which lasted four or five years and ended with an entirely atrophic skin which was very thin. They were accompanied by no itching or pain, but following the inflammatory condition the skin began to waste away, leaving just a thin, parchment-like appearance.

DR. PUSEY thought the case was very obscure but believed it belonged in the group of cases in which there was round-cell infiltration undergoing degeneration. He thought it might very well be put with Crocker's cases of erythema elevatum diutinum, in which there were elevated, chronic patches undergoing degeneration. That had been described as identical with granuloma annulare. He thought another obscure field in which to put those cases was sarcoid. He thought it was not a scleroderma or an erythema perstans.

DR. HARRIS thought it might be scleroderma. He said the sections showed distinct change in the collagen, which reminded him of a scleroderma.

DR. SUTTON said he could not agree with the diagnoses made. He believed that Hartzell was correct regarding the clinical and histologic identity of erythema elevatum diutinum and granuloma annulare, and the aspect of this case was certainly far different from that of granuloma annulare. One might consider it an example of erythema perstans, such as Wende and Fox first described, the term being sufficiently broad to avoid incriminating any one. So far as scleroderma was concerned, he thought it did not resemble that disorder in the least. The collagenous degeneration characteristic of that condition was entirely wanting.

DR. ORMSBY said he could not add anything further. He had studied the case a great deal and thought the vascular changes shown histologically were very interesting. He had no diagnosis to offer.

#### VASCULAR NEVUS SHOWING THE EFFECT OF TREATMENT WITH QUARTZ LAMP. PRESENTED BY DR. PUSEY

The patient was a girl, aged 20, with a flat vascular nevus, part of which was untreated and showed as a dark red surface, and part was light pink where it had been treated with the quartz lamp.

#### TUBERCULOSIS OF SKIN. PRESENTED BY DR. PUSEY

The patient was a woman, aged 24, who had a single nodule of tuberculosis in the lobule of the right ear. She had no other tuberculosis in the skin and no evidence of tuberculosis of the lungs, or elsewhere. Many bacilli had been found in the sections.

#### GRANULOMA ANNULARE. PRESENTED BY DR. STILLIANS

The patient was a young woman who first noticed "lumps" forming about the elbows, eight years ago. Since then they had gradually increased in number and size and others had appeared on the knees and backs of the ankles. The lesions were hard and subcutaneous nodes, varying in size from a pea to a lima bean, the more superficial ones being light yellow. They were round or oval with flat tops, some of them slightly tender. The blood count was normal. Wassermann reaction was border-line to weakly positive, on several examinations. The von Pirquet test was doubtful; one spot reacted on the third day, others negative. Histologically, the tissue showed areas of degeneration in the corium, with surrounding zones of epithelioid cells and leukocytes.

#### PARAKERATOSIS (PITYRIASIS LICHENOIDES, JULIUSBERG TYPE). PRESENTED BY DR. ORMSBY

The patient was a man, aged 33. The disorder was of seven years' duration. The patient was demonstrated before the American Dermatological Association in 1915, and reported in *THE JOURNAL OF CUTANEOUS DISEASES*, 1915, 33,

p. 390. The symptoms now exhibited were there described. No change had been noted during the interim, in spite of treatment.

#### DISCUSSION

DR. HEIDINGSFELD said, in regard to parakeratosis, that some of the clinically well-defined cases of this character, seen some five or six years ago, returned with well-defined relapses of psoriasis vulgaris. He was beginning to feel that a great many of the erythrodermias of the skin were closely akin to psoriasis and that there was a possible "psoriasis habitat" present in many individuals which predisposed to the scaly eruptions that occurred at times in syphilis, lichenoid eczema and other scaly eruptions of the skin.

DR. ORMSBY stated that this case represented one of the most persistent of cutaneous disorders, and said that in this instance there had been no change of type of lesion. The lesions had remained practically the same for the last six years. The persistence and lack of response to treatment were two prominent features of parapsoriasis. Recent experience had shown that the three types of lesions described in the various cases were expressions of a single disease, as they had all been demonstrated in the same patient. He did not think that psoriasis was a factor, though in some instances the lesions were psoriasiform.

#### RECURRENT URTICARIA BULLOSA WITH PIGMENTATION. PRESENTED BY DR. HARRIS

The patient was a woman, aged 29, who had had an attack of hives three years previously. There was recurrence two years later, two attacks three months apart, in the spots previously affected. Then no recurrence until one year ago, since which time she has had nine attacks, either just before or just after the menstrual period. The eruption always affected the same spots. The skin was infiltrated, somewhat elevated, of a deep red color, becoming lighter in the center of the lesions. The lesions were accompanied by itching and at times were vesicular. As they disappeared, a brown pigmentation remained.

#### DISCUSSION

DR. SWEITZER thought there might be some glandular disturbance, as the general skin color seemed to be darker than it should be and there was definite pigmentation.

DR. IRVINE said he had seen quite a number of cases of the same type which tended to be generalized, clear up under thyroid extract. Most of them had been in children with very dry hair and dry skin.

#### ANGIOKERATOMA. PRESENTED BY DR. SENEAR

The patient was a young lady, aged 29, who presented an angiokeratoma following chilblains. The condition had been present about two years. There was no history of any other vascular anomalies in the family.

The conditions were most marked on the dorsal surfaces of the toes of the right foot; here were seen numerous reddish, pin-point to pin-head sized lesions, composed of dilated capillaries. These were for the most part discrete but on the third and fourth toes had become confluent, forming larger lesions, the largest about the size of a split pea. These larger lesions were the only ones which showed the keratotic element, their surfaces being distinctly elevated and warty. The other lesions on the toes, as well as those over the adjoining portion of the foot, and those on the backs of the fingers, showed only the angiomatous element of the disease. Both the hands and feet were cold and blue, and the hands were puffy, due to an increase in the connective tissue, resembling the change seen in cases of lymphatic obstruction. The patient stated that her hands had always been like this.

## TUMORS FOLLOWING VASELIN INJECTION. PRESENTED BY DR. ORMSBY

The patient was a man, aged 36. Injections of white vaselin were made seven or eight years ago, the first change being noted three years after the injections. There was extensive involvement of both cheeks in the region below the eyes. The lesions were nodules and tumors of various sizes, deeply seated and movable. The overlying skin showed little change. Several treatments with the Roentgen ray, using the Coolidge tube and aluminum filter, had been given, with but little change in the condition.

## LUPUS ERYTHEMATOSUS DISSEMINATUS. PRESENTED BY DR. ORMSBY

The patient was a man, aged 22. The disorder began in January, 1915, on the face and dorsi of the hands. The lesions spread rather rapidly, and in May became generalized. After several months of distressing illness, the lesions began to clear, and for more than a year past they had been limited to the face and hands.

The lesions presented were exhibited as erythematous, with a sebaceous element and some scarring over the face and forehead. Large bluish-red nodules were present on the dorsal surfaces of both hands, including the fingers. The nodular element was a recent development. Originally, the hands had erythematous lesions only. At the height of the general attack, the temperature was elevated and the patient presented a hopeless appearance.

Among other remedial agents, autoserum was employed with apparent benefit. The patient's general health at the time of presentation was good.

## DISCUSSION

DR. SUTTON said that he had seen a few cases of lupus erythematosus which were possibly due to the presence of a tuberculous toxin, but he considered it extremely improbable that the ordinary, chronic type of lupus erythematosus was a tuberculous process. The fact that the disorder was rarely encountered in the tuberculosis sanatoria of Colorado (Markley) was a strong factor against the probability of such an origin. The acute, disseminated variety of the disease, such as occurred in this case of Dr. Ormsby, was probably tuberculous, however, if we may judge by the after-history of the reported cases. The majority of these patients died of pulmonary tuberculosis.

## PSORIASIS, GENERALIZED, INVETERATE. PRESENTED BY DR. ORMSBY

The patient was a man, aged 35, who was first examined in October, 1905. On first examination, the only areas involved were the palms, soles and hairy regions of the body. Later the eruption became generalized and persisted in spite of all treatment. During the last year, much treatment with autoserum had been given, which was the first remedial agent that had been effective. Chrysarobin was used in combination with autoserum, as was usually done. The patient was shown to illustrate a case beginning in an unusual way, having an obstinate course, but finally being benefited by autoserum.

## BLASTOMYCOSIS. PRESENTED BY DR. ORMSBY

The patient was a man, aged 44, who had had blastomycosis for two and one-half years. The original lesion, when first seen, was 5 cm. by 8 cm. in size, and was situated over the right angle of the jaw, extending downward over the neck. The patient had been treated continuously with potassium iodid for a long period, with only moderate improvement. In June and July, 1916, four injections of salvarsan were given with some improvement. Immediately on the resumption of potassium iodid, the entire area cleared up and had since remained well.

The result appeared to demonstrate that salvarsan sensitized the patient, so that when the iodid was resumed it was immediately curative.



## BLASTOMYCOSIS OF ELBOW. PRESENTED BY DR. ORMSBY

The patient was a man, aged 49, who was first examined by the speaker in October, 1906. The earliest lesion was joint involvement, which was considered tuberculous and was operated on. Later, cutaneous lesions occurred, which were typical of blastomycosis.

A large area above the elbow showed the typical lesions of blastomycosis, together with one area of the hypertrophic type. Much scar formation was present around and below the joint. The hypertrophic area at one time became so prominent that a malignant transformation was suspected, but a histologic examination of tissue removed, revealed only blastomycotic changes. During the summer of 1916, salvarsan and potassium iodid had been combined in the treatment of the case, without result. In spite of treatment, the patient was gradually losing ground.

## BLASTOMYCOSIS. PRESENTED BY DR. PUSEY

The patient was a man, aged 50, who had at different times blastomycosis of the skin, lungs, prostate, epididymis, and probably of the kidney. He had come under observation first in June, 1914. At that time he had many mulberry-like lesions on the face, trunk and upper extremities; he also showed symptoms suggesting extensive pulmonary tuberculosis. At that time blastomycetes were found in the skin lesions and in the sputum. At one time they were found in pus in the urine, presumably from the kidneys. Following that there developed prostatitis, and blastomycetes were recovered from the prostatic pus. This was soon followed by an epididymitis, which was undoubtedly blastomycetic. Under potassium iodid, and nothing else except improvement in hygienic conditions, the skin lesions disappeared and also the pulmonary and other symptoms. For a long time he had shown no evidence of blastomycosis except an enlarged epididymis. The case was presented as interesting because it was one of systemic blastomycosis, which had gone on in comparatively good health for two years and a half.

## BLASTOMYCOSIS OF THE NOSE. PRESENTED BY DR. PUSEY

The patient was a man aged 30, who had a large, cauliflower tumor covering the whole of the tip of the nose. It had begun as a "pimple" a few weeks before and rapidly grown to its present size. He had been taking potassium iodid, 120 grains, which he thought had checked the growth. Blastomycetes had been recovered from the pus.

## BLASTOMYCOSIS. PRESENTED BY DR. HARRIS

The patient was a man aged 37, who presented a lesion on the side of the scrotum, which had been present for seven years. It began as a pustule on the penis which extended to the pubes and lower part of the abdomen, into each groin and along the perineum, involving the anus and adjacent part of the buttocks.

The lesion showed a large central scar. The border was made up of an elevated, papillomatous patch, showing numerous miliary abscesses. The blastomycetes had been demonstrated.

## BLASTOMYCOSIS. PRESENTED BY DRs. HARRIS AND STILLIANS

The patient was an Italian, aged 72. The lesions had been present for years and had gradually spread. The patient had refused consistent treatment. He presented a band of typical blastomycetic dermatitis, extending across the forehead, and extensive contractible scars over both cheeks which had caused ectropion of the lower lids and had resulted in destruction of one eye and serious damage to the other.

## BLASTOMYCOSIS. PRESENTED BY DR. MACKEY

The patient was a woman, aged 27, who presented lesions beneath the eye, producing scarring with ectropion and small, dusty red macular patches on



the forearm and ankle. The lesion on the cheek began four years ago and had been treated with the Roentgen ray at one of the hospitals. The other lesions had received no treatment. Blastomyces were demonstrated from scrapings.

#### BLASTOMYCOSIS. PRESENTED BY DR. MACKEY

The patient was a male, aged 42, who presented nodular, crust-covered lesions over the nose and upper lip, which had been present for over six months. Blastomyces were found in scanty purulent drops which were expressed from the border of the lesions from both the nose and lip. The serpiginous outline of the lesion over the nose suggested tertiary syphilis, and the Wassermann test was + + +, and for verification another Wassermann reaction was likewise triple positive.

#### DISCUSSION

DR. ORMSBY said his cases had been shown to demonstrate the effect of salvarsan in blastomycosis. During the summer, the first patient had had four injections of salvarsan, which apparently had little effect, and immediately after that he was given potassium iodid, under which the lesions cleared up very promptly. The patient with lesions about the elbow had had a large amount of salvarsan and potassium iodid, but had shown no improvement. These cases demonstrated that salvarsan was of value in some cases and not in others. The second patient had also had treatment with the Roentgen ray.

DR. HEIDINGSFELD asked why Dr. Ormsby did not consider favorably, resection of the elbow with the object of arresting the condition and saving life. He had found it a method that was efficacious in some of his very severe, persistent forms of blastomycosis that involved the deeper tissues and the bones, and which resisted all other forms of therapeutic effort.

DR. ORMSBY, replying to Dr. Heidingsfeld, said that most surgical measures in such cases had been detrimental. This patient had a joint resection early, but it apparently did not improve the condition. The blastomycosis in this case seemingly began in the elbow joint and later attacked the skin.

DR. PUSEY said when his patient first came he had lesions over his arms and face and trunk, more than could be counted. He received generous doses of potassium iodid. The speaker did not recall any other cases of blastomycosis in which the lesions disappeared from potassium iodid alone. He said this patient had been symptomatically well part of the time for three years, with nothing but potassium iodid.

The other case came with a history of having had a diagnosis of blastomycosis, and he had potassium iodid up to 130 or 140 grains a day, with almost no effect on the lesions. Dr. Pusey had grown to feel that there was a good deal of difference in the various blastomyces and their reaction to the remedies we used. He agreed with Dr. Ormsby, that they did not do very well from surgical treatment. One patient had been operated on for various things until he had a bad deformity of the leg and he still has his blastomycosis.

Dr. Pusey said he had recently seen a surgical case in another clinic in which the man presented himself with a blastomycosis of the mouth, and the lesion was excised as a carcinoma; in two years, the man returned with his whole face destroyed from blastomycosis.

DR. QUINN said he had a patient whom he saw occasionally, in whom the diagnosis had been made on the Pacific Coast. The lesion had started on his ankle and his foot was amputated above the ankle. Later, lesions developed on the other leg and up near the shoulder. The leg seemed to be improving but there was still an active process in the shoulder. He thought the operation was a failure.

DR. FOERSTER asked if Dr. Pusey's first case had been in this city all the time. He had heard that change of climate had some influence on the disorder

and suggested the use of copper sulphate as an alternative treatment for the potassium iodid.

DR. BUTLER said that surgical interference in most of these cases consisted in curetting the lesions, with recurrence of the disease in most instances; he thought if excision was given the choice, more cures would result, as the internal treatment of blastomycosis was in many instances purely palliative.

DR. MACKEY thought that Dr. Ormsby's case was one he had curetted a number of years ago, in an effort to eradicate the lesions entirely, and the present condition exemplified how futile curetting proved in some instances, at least.

The case shown by Dr. Harris, was one which the speaker had been privileged to observe for a number of years and which he had shown before the Society a few times. Notwithstanding that the patient had been very indifferent in following any line of treatment, small dosage of potassium iodid for a few weeks produced a marked clearing up of the lesions and a similar but more rapid effect was produced by injections of salvarsan, emphasizing the point that a certain class of cases responded very easily to systemic treatment.

The speaker thought that the case which he presented, with lesions on the nose and upper lip, was one of especial interest from the fact that lesions over the nose bore such a striking resemblance to nodular syphilis and that the two Wassermann tests had been triple positive.

DR. RAVOGLI thought that potassium iodid was very helpful in some cases of blastomycosis and of no benefit in others; he thought the location of the lesions had something to do with it. He stated that he often removed the granulations with the curet and then tried to cauterize with some remedy that would kill the blastomyces. For this purpose he found lysol of great value. He also used castor oil and balsam of Peru in almost equal parts. The Canada balsam also killed the blastomyces as seen in the microscopic examinations. In cases of very deep blastomycosis he thought surgical intervention did no good; the cases in his service had died of blastomycetic sepsis.

DR. HARRIS said that about five years ago he showed a young woman with blastomycosis of the lower extremities which extended from the knee almost to the ankles. Blastomyces had been found by cultures. She improved greatly on salvarsan. About three years ago he had shown another case, a patient whom Dr. Ormsby had seen, who had a diffuse blastomycosis across the chest and that case recovered under salvarsan. He died later of erysipelas and at necropsy no blastomyces could be demonstrated. He had come to consider salvarsan almost a specific for blastomycosis.

#### MORPHEA GUTTATA. PRESENTED BY DR. ORMSBY

The patient was a woman, aged 31, who was first seen May 16, 1916. At that time the lesions were of two years' duration. They had started as a white area, the size of a fifty-cent piece, on the shoulder, and had gradually spread. Shortly after the beginning, a brown streak, 3 inches wide, was noted, which extended from the middle of the forearm to the spine. On first examination, the lesions were found to be located on the forearms, on both surfaces, the extensor surface being markedly involved. The lesions varied in size from pinhead to smaller than a split pea. They were level with the skin and of a dead-white or bluish-white color. There were no keratotic plugs, but occasionally a follicular opening. The lesions were arranged in groups and sometimes in lines. In certain areas, atrophy was present, with moderate depressions and wrinkling of the skin. On the right forearm, the relic of a hyperpigmented streak extending to the middle arm, was present. Over the left shoulder were several groups of lesions, forming patches the size of a silver dollar. Individual patches devoid of pigment and surrounded by a rim of hyperpigmentation were present. The individual white lesions were elevated, with rectangular bases and flat tops. No plugs were present. In places where the lesions had disappeared, an almost imperceptible scar was present. Over the lower dorsal

and upper lumbar vertebrae was a hyperpigmented area two and a half by half an inch in size. There was also a hyperpigmented area over the head of each femur. When shown Jan. 16, 1917, some involution of lesions had occurred.

#### LUPUS ERYTHEMATOSUS OF THE FACE. PRESENTED BY DR. ORMSBY

The patient was a woman, aged 41, who had had the disease for four years. It was an extensive case, which had resisted treatment of other sorts, but had largely yielded to exposure to the quartz light. This had been used irregularly since June, 1916, during which period ten treatments had been given.

#### ANGIOMA SERPIGINOSUM. PRESENTED BY DR. STILLIANS

The patient was a Polish woman, aged 30, who first noticed the red spots on her neck in 1913. These gradually spread and when first seen by the speaker in 1915, involved the upper portion of the neck and lower third of the right cheek. Since then there had been a marked regression of the lesions. At the time of presentation they involved only a small area along the jaw bone perhaps one third of the original extent. She received three very light roentgen-ray treatments in 1915, which may or may not have produced this effect.

The lesions consisted of bright red, punctate macules and papules interspersed with short, wavy linear telangiectases on apparently normal skin. At the posterior portion of the involved area several oval or round, pale areas were present, probably very slight scars.

#### DISCUSSION

DR. IRVINE said the interesting feature of the case was that the patient had apparently improved after roentgen-ray treatment.

DR. PUSEY did not think that the little spots were the effects of the roentgen ray, but he agreed with Dr. Stillians' diagnosis.

DR. STILLIANS said the patient had received no roentgen-ray treatment until after he had seen her and made the diagnosis. The lesions had been spreading for two years before he saw her. He had given her three very light roentgen-ray treatments, after which she failed to return for further treatment. Whether the slight amount of roentgen rays had had anything to do with the improvement in the lesions, he could not say.

#### CARCINOMA. PRESENTED BY DR. QUINN

The patient was a man, aged 54, who presented a carcinoma of the neck which had been present for eleven years. There was a history of a chancre twenty years ago. The lesion was about the size of a half dollar with indurated border and a broken down central portion.

#### CASE FOR DIAGNOSIS. PRESENTED BY DR. McEWEN

The patient, a man, aged 31, employed in a packing house, entered the County Hospital three weeks previously, with an eruption which presented the clinical appearance of an acute dermatitis involving the feet and lower portions of the legs. In his work, which had to do with the cleaning of the intestines of animals, his feet and parts of his skin were more or less constantly wet. Subsequently other lesions appeared on the body. These were discrete, from coin-sized to palm-sized, yellowish-brown, scaling slightly, with a tendency to moisture on opposed surfaces. There was much itching. Some of the lesions were suggestive of pityriasis rosea, others of dermatitis seborrheica. The Wassermann test was negative, and repeated examinations for fungi had yielded no results. The case was presented for diagnosis.

#### ACQUIRED XERODERMA PIGMENTOSUM. PRESENTED BY DR. HARRIS

The patient was a woman, aged 32. Nine years ago, following a pregnancy, she had what was probably an eczema which began on the hands and arms



and extended over the body. For seven years she had noticed that the skin of both arms became very red, scaly and sore during the summer, and gradually pigmented spots had appeared. The trouble appeared every year, beginning about April and disappearing gradually about September.

#### DISCUSSION

DR. HARRIS thought that the thing of interest was the fact that during the summer months the skin of the face and arms becomes very red and scaly; during the winter this cleared up, leaving the peculiar spots of pigmentation.

DR. LIEBERTHAL stated that he had seen the patient two years ago for a *pruritus vulvae*. He could not accept the diagnosis of *xeroderma pigmentosum*. He had seen a case which was exactly a duplicate of this one, except that in addition to the pigmentation, there were various tumors on the skin, and he thought this case would turn out to be one of *neurofibromatosis*.

DR. PUSEY did not believe it could be considered a case of acquired *xeroderma pigmentosum* unless we accepted as *xeroderma pigmentosum* many cases showing premature senile changes in the skin as the result of light. He thought that all degrees of these cases could be found from the patient who developed a senile skin with senile warts and epitheliomas in old age, down to the cases of true *xeroderma pigmentosum* in which the skin was so sensitive to light that senile changes of extraordinary degree, followed by carcinoma, occurred in children still in their infancy. He thought all these changes represented a reaction to the actinic rays of light. In his opinion it was not infrequent to see cases of the type of Dr. Harris' case, and he did not think they should be called *xeroderma pigmentosum*.

DR. HAASE agreed with Dr. Pusey in regard to the reaction to light. He said that in the South they saw a great many people who took on such spots early in life, perhaps not so much as this woman showed on the chest.

DR. HARRIS would not concede that because the skin was old it was sensitive to light. This case gave a definite history that light had an effect on her skin. The spots were much darker and more irregular in shape than were freckles following sunburn.

#### CASE FOR DIAGNOSIS. PRESENTED BY DR. SHAFFNER

The patient was a child aged 2 years, with lesions on the chin, chest and upper back which one year ago had resembled *verruca plana juvenilis*.

There are about fifty pin-head sized lesions scattered over the upper back, chest and chin, flat topped, very slightly papular, disappearing almost entirely on pressure, with no definite grouping. In several of the areas there was a very slight tendency to telangiectasis.

#### DISCUSSION

DR. STOKES thought that the macules were telangiectases. He had never seen any other case of *angioma serpiginosum*, but they impressed him as being of the type seen in connection with thyroid involvement.

DR. BUTLER considered it a case of *angioma serpiginosum*, on account of the reddish, atrophic appearing, branny desquamative area on the face, and the reddish, punctate, impalpable dot lesions on the neck.

DR. FOERSTER said that numerous small angular papules were visible on the neck and that this was not in the picture of *angioma serpiginosum*.

DR. SHAFFNER said that when he first saw the case it looked like a typical case of *verruca plana juvenilis*, but the lesions had receded so in the past year that they were very rarely papular. He had presented the case for diagnosis and agreed that it seemed like an *angioma serpiginosum* but did not think that it was as evident as some of the others considered it.



## ANGIOKERATOMA. PRESENTED BY DR. HARRIS

The patient was a lady, aged 21. For three or four years the patient had noticed that with the onset of winter red spots would develop on the fingers and toes, accompanied by some itching and burning when the extremities got warm. The same spots were affected each year. Most of the lesions showed a dilated blood vessel in the center and some of them developed a hyperkeratosis over them.

## DISCUSSION

DR. SUTTON had found angiokeratoma of the extremities very rare in this country. Angiokeratoma of the scrotum, such as was originally described by Fordyce, in 1896, was comparatively common, however, and, largely through the kindness of his various genito-urinary associates, he had seen more than a score of examples during the past five years. These patients as a rule suffered from venous obstruction or some other circulatory defect. Persons who were the subjects of "chilblain circulation" were frequent victims. In the cases of angiokeratoma of the scrotum, he had seen fragmentation of the elastic tissue in the vicinity of the vessels, and he thought it would be interesting to examine similarly stained sections from these cases of angiokeratoma of the extremities, and also from cases of chilblain.

## MELANOTIC SARCOMA. PRESENTED BY DR. WAUGH

The patient was a man, aged 26, who presented a dark brownish, pigmented mole which was slightly elevated and the size of a large pea, on the right scapular region. The lesion had been present for years. In November, 1915, it began to enlarge and one month later was the size of a small walnut. It was removed by a hair ligature, but recurred immediately with involvement of the axillary glands. The growth at the site of the original lesion was removed surgically in March, 1916, and before the incision healed he had a recurrence with grouped nodules at the site of the operation. At the same time there was marked adenopathy of the right axillary glands. Pigmented lesions on the body had recently appeared. A histologic examination of the growth that was removed surgically proved to be sarcoma.

## MULTIPLE KELOIDS OF THE STERNUM. PRESENTED BY DR. E. P. ZEISLER

The patient was a white man, aged 26, who presented multiple, transverse, bandlike keloids of the sternum and back which began at the age of ten years. There was an associated follicular acne of the back.

## PAPULO-NECROTIC TUBERCULID. PRESENTED BY DR. E. P. ZEISLER

The patient was a man, aged 28, who had been operated on twice for tuberculous glands of the neck. The eruption on the back and neck consisted of papulo-necrotic lesions, which had been present for two years. The Wassermann reaction was positive, but the lesions had not cleared up under anti-specific treatment. Tuberculin tests were positive.

## PURPURIC ERUPTION. PRESENTED BY DR. E. P. ZEISLER

The patient was a boy, aged 13 years, who had pulmonary tuberculosis accompanied by a purpuric eruption on the arms and neck, of three weeks' duration.

## DERMATITIS HERPETIFORMIS. PRESENTED BY DR. QUINN

The patient was a man, who had had the present trouble for one year. The lesions were grouped, erythematous and vesicular, symmetrically arranged, appearing over the entire body. They resembled somewhat a pityriasis rosea.

## DISCUSSION

DR. COLE was very much interested in the case because the patient gave a history of itching. He thought it might be a case of mycosis fungoides in the premycotic stage. Moreover, the lesions were more or less annular in character.

DR. FREEMAN was of much the same opinion as Dr. Cole. The patient had first said that he had taken no medicine, but later admitted that he had, and he was under the impression that there might be some drug eruption but it was very likely that it was the premycotic state of mycosis fungoides.

DR. RAVOGLI agreed with Dr. Cole in part, but thought that considering the short time which had elapsed it was more likely a pityriasis rosea; but what was pityriasis rosea? He remembered that formerly such cases had been called herpes tonsurans. In some cases he had found small spores of the trichophyton, and he always had the idea of the possibility that these spots of pityriasis rosea came from a peculiar kind of trichophyton.

DR. HARRIS stated that he had seen a number of cases recently and thought this case belonged to the same group. Some of the cases resembled pityriasis rosea, others seborrheic dermatitis, he did not think they were either. In some of these cases the eruption of this type in parts of the body became a frank eczema. He considered it a parasitic affair but had not been able to demonstrate the fungus. He had been using sulphur and ichthylol with good results.

## PAGET'S DISEASE. PRESENTED BY DR. MACKEY

The patient was a woman, aged 45, who, though married, had never been pregnant. The present trouble began four years ago, had gradually increased, had at times bled freely, and for some months had been painfully tender to pressure. On the breast, not involving the nipple or areola, but extending from the lower edge of the areola downward, was a circumscribed, indurated, erythematous, somewhat scaly patch, half the size of the palm of the hand. Prior to the application of a mild white precipitate and salicylic acid ointment there had been slight crusting and fissuring.

## TERTIARY SYPHILITIC LESIONS OF FACE. PRESENTED BY DR. MACKEY

The patient was a woman, aged 71, who presented a palm-sized patch at the angle of mouth, extending backward over the cheek, which had been present for two months. The lesion resembled a circumscribed area of well developed dermatitis. This same patient had been before the Society a few months ago, displaying more lesions of this same type. When she was first seen, four years ago, on account of their distribution and character of scales, the lesions were much like those of lupus erythematosus. The lesions disappeared completely under antisypilitic treatment, reappearing again in a few months, after the patient had discontinued her treatments. This made the fifth time that the patient had returned for treatment.

## SCLERODERMA. PRESENTED BY DR. HARRIS

The patient was a woman, aged 55, who for years had had itching and thickening of the skin of the legs and chest.

## MYCOSIS FUNGOIDES. PRESENTED BY DR. QUINN

The patient was a woman, aged 20. The trouble began as an eczematoid eruption four years ago. The fungoid lesions had been present for about one year. They developed rapidly after an injection of salvarsan.

The blood count was normal; there was no sugar or albumin in the urine. When presented, the entire body was covered with fungoid tumors, with the exception of the palms and soles.

## DISCUSSION

\* DR. QUINN said that some one thought the patient was an old woman, but she was a girl aged 20, who had had the tumor lesions for only about a year. He had tried almost every kind of drug treatment, but nothing except the roentgen ray seemed to be of any use.

## TUMOR OF THE UPPER LIP. PRESENTED BY DR. STILLIANS

The patient was a woman, aged 50, who presented a soft, elastic mass in the upper lip. The lesion had appeared several years ago and had been gradually increasing in size. For about two years there had been a small red papule in the skin above the center of this mass. It was not tender or painful, was about half an inch in diameter and discoid in shape and could be palpated as well from the mucous surface as from the skin.

## DISCUSSION

DR. FOERSTER thought it would be a difficult matter to make a diagnosis, but from the fact that the upper part of the face, and the nose particularly, was a favorite site of dermoids, and from the location and the history given, this was to be thought of in connection with the case.

## PARAPSORIASIS EN PLAQUES. PRESENTED BY DR. HARRIS

The patient was a man, aged 25, who for eight years had been developing erythematous, scaly patches on various parts of the body. There was no itching but the thickening of the skin caused it to crack at times.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. HARRIS

The patient was a man, aged 31, who for six or seven years had had sharply circumscribed, scaly patches in the scalp. The scales formed thick plates which were closely adherent and would bleed on removal. There was some tendency to symmetry, but practically no itching. For two years he had had a scaly condition of the scrotum. Repeated examinations had revealed no fungi.

## BENIGN CYSTIC EPITHELIOMA. PRESENTED BY DR. HARRIS

The patient was a woman, aged 38. Twelve years ago she had a mole over the right zygoma removed. She thought that three or four months later some small papules appeared over the region of the masseter muscle. These had grown slowly and increased in number.

## DISCUSSION

DR. SUTTON thought the designation of acanthoma adenoides cysticum a much more appropriate one than multiple benign cystic epithelioma. As a rule the lesions disappeared promptly under roentgen therapy.

DR. HEIDINGSFELD said that he had seen four or five examples of this condition in one Kentucky family, in which there was a strong hereditary tendency. Fulguration gave him the most prompt and best results.

DR. HARRIS said that the patient wished roentgen-ray treatment but that he had refused to give them unless the lesions became more noticeable.

## ACUTE LUPUS ERYTHEMATOSUS. PRESENTED BY DR. HARRIS

The patient was a man, aged 33, who presented numerous lesions which had been present for seven weeks. They were scattered over the face and neck and varied in size from 0.5 to 4 cm. in diameter, were of a bright red color, slightly elevated and had few scales.



## TRICHO-EPITHELIOMA OF EYELIDS. PRESENTED BY DR. HARRIS

The patient was a woman, aged 39, who presented lesions of the eyelids which had been present for years. There were six or eight yellowish-white papules on each eyelid, toward the inner canthus. They were all about the size of a small split pea. They were not as yellow as xanthoma.

## NEVUS ANEMICUS. PRESENTED BY DR. HARRIS

The patient was a girl, aged 17 years, who had a white spot in the middle of the back which became much more pronounced when the area was rubbed with ice. On application of heat it did not get as red as the surrounding skin. (This patient was shown at a previous meeting.)

## DISCUSSION

DR. PUSEY said he was interested in seeing how relatively frequent such cases were if one looked for them. He suggested that some of the cases of so-called "white spot disease" might be nevus anemicus. He did not mean the typical cases of white spot disease that might be morphea, but he thought that one might have minute white spots of nevus anemicus over the area where white spot disease occurred, and in view of the fact that every one who knew the words "white spot disease" could tell the disease the minute they saw it because of its suggestive name, some such cases might be due to a small nevus anemicus.

## TUBERCULID. PRESENTED BY DR. SHAFNER

The patient was a woman, aged 25, married, who had had the skin trouble for one and a half years, and gave a history of having had a previous attack three years ago, that cleared up entirely. The lesions occurred in crops and the patient believed that some disappeared entirely. She gave a history of having had a peritonitis several years before her marriage. The condition was subacute in that six weeks elapsed before the onset, and during which time she left the hospital for several weeks. Her physician told her that at the operation he found that the intestines were all matted together and that one ovary and tube were much smaller than those of the opposite side. The skin condition followed that operation. From her history it was inferred that she had a tuberculous peritonitis.

The lesions resembled syphilis so much that a Wassermann test was done, which proved to be negative. The patient was shown at the December meeting at which the majority of the men considered the case to be a pityriasis lichenoides chronica (Juliusberg), but this diagnosis was made before the above history was elicited and before biopsies were made. The latter showed giant cells and the general arrangement of papulo-necrotic tuberculids. Within the last few days the patient had developed a new set of lesions distinctly tuberculid in nature.

## DISCUSSION

DRS. SWEITZER, HAASE AND STOKES thought it was a tuberculid.

DR. IRVINE said the case did not appear to him as a tuberculid. There seemed to be a number of pigmented lesions and some depressed scars, and while there was a very little bit of scaling in some of the lesions it seemed to him it was not more than would be present in a case of syphilis.

DR. SHAFNER said that when the case was first presented he thought that the diagnosis of pityriasis lichenoides chronica was a good one, and the scaling and arrangement of the lesions spoke in the favor of such a diagnosis. However, the history of the patient as to her old tuberculous peritonitis, the new crop of distinctly tuberculid-like lesions, groups of necrotic papules, and the biopsy findings made it apparent that the case was one of tuberculid.



## ACNE DUE TO TAR. PRESENTED BY DR. McEWEN

The patient was a woman, aged 30, who was employed in a harvester plant, and worked with binding twine. The eruption first appeared about six months ago, on the face, then on the forearms. The lesions consisted of small papules, pustules and comedones, and were improving under treatment. The Wassermann reaction was negative.

## DISCUSSION

DR. PUSEY said he had had an opportunity of seeing a number of similar cases in persons who worked with binding twine and had investigated the conditions of the workers and found that it was an oil acne. The material of which the twine was made was immersed in oil in the course of manufacture and it produced some sort of acne as that seen in other oil workers. The localization in this case was not quite in accord with other cases he had seen.

DR. ORMSBY stated that about three years before, he had visited some plants where binding twine was being manufactured, in an effort to determine the cause of a peculiar acneiform eruption occurring in employees of these places. In this investigation, it was found that about 25 per cent. of the people employed were affected, and that the lesions in all cases were largely limited to the arms, forearms and abdomen. They were acneiform in character, and some left comparatively deep scars. It was found that the company was using an oil on the twine, which prevented certain insects in the field from cutting the twine, which in the past had been a serious handicap. Since using the oil, however, no trouble in this respect had occurred. The composition of this oil could not be determined accurately, as it was a secret preparation. That it was responsible for the acneiform lesions was proved by the fact that all those workers who handled the hemp before the oil was applied were exempt, while those through whose hands it passed after being immersed in the oil were affected.

The company's physicians had already instituted a system of bathing with soap and water, which the company insisted on having the employees carry out each day before leaving the factory. In this way the trouble was gradually being overcome.

## PROBABLE TUBERCULOUS LESIONS OF THE LUNGS; SYPHILIS.

PRESENTED BY DR. McEWEN

The patient was a colored woman, aged 20, who showed evidences of pulmonary tuberculosis, an extensive skin eruption, and a positive Wassermann reaction. She was admitted to Cook County Hospital on Dec. 23, 1916, the skin lesions having appeared about three weeks previous. The temperature had varied from 100.5° to 103° F., and became normal on December 8. Repeated sputum examinations had been negative. The skin lesions were macular and papular; the former were mostly pigmentary; the latter in some instances showed a tendency to necrosis in the center, with the formation of a crust under which would appear a shallow scar. The lesions appeared in crops. The patient's mother and sister had died of pulmonary tuberculosis. The patient was presented for diagnosis between syphilis and tuberculid.

## DISCUSSION

DR. RAVOGLI thought the case was syphilis, probably a late papular syphilid.

DR. HAASE thought the case was unquestionably one of syphilitic exanthem. He said the lesions cleared up too rapidly for a tuberculid. Attention had been called to the fact that the woman had rise of temperature, and while that might have been due to the condition in the chest, the speaker thought it should not be forgotten that a rise in temperature occurred in syphilis as well as in other conditions.

DR. HARRIS did not think that the patient should be convicted of having syphilis because the woman was colored. She had come with the physical find-

ings of tuberculosis and had been in the hospital for several weeks, developing crop after crop of the eruption. They underwent necrosis, forming a crust which fell off and left a small pitted scar. The speaker thought they did not correspond with the pustular lesions seen in syphilis. He thought it was surely a tuberculid.

DR. McEWEN said that while a few of the lesions looked like those of a tuberculid, the majority of them he regarded as expressions of syphilis.

#### SYPHILIS WITH LUPUS ERYTHEMATOSUS. PRESENTED BY DR. POTTHOFF

The patient was a woman with a syphilitic history of eighteen years' duration. One or two years previously, she had an eruption on the ears which spread to the face, the areas over the zygomatic and malar bones and also over the nose, involving the bridge and alae. The lesions were covered with dirty, grayish, adherent scales, irregular in shape and slightly elevated. She had received intensive antisyphilitic treatment for the past several months but showed very little improvement.

#### DISCUSSION

DR. IRVINE thought it was perhaps uncommon but not unique to have lupus erythematosus associated with syphilis. He had had one or two such cases which had cleared up as far as the syphilis was concerned, but the lupus erythematosus had remained. He thought that was the condition in this case, but that the crust was more of a seborrheic nature than was ordinarily seen in lupus erythematosus.

#### KERATOSES, TELANGIECTASES. PRESENTED BY DR. QUINN

The patient was a woman, aged 40. Six years ago, following an operation for appendicitis, she began to be troubled with dryness of the skin of the palms which increased, with scaling, until the hands and arms above the elbows were involved. Swelling and loss of sensation followed. The trouble then appeared in the feet, increasing more rapidly in the left foot until the skin was broken and a colorless serum exuded, burning every surface it touched. Intense suffering resulted in loss of the use of the limb, until crutches became necessary.

DR. QUINN said that when he first saw the patient she had lesions which extended above the knees and above the elbows on the anterior surface of the arms. Some of the lesions then resembled psoriasis. They all cleared up except the ones on the soles and palms; occasionally there were warty lesions on the palms. So far as the patient knew she had had no arsenic, but she had had some roentgen-ray treatments.

#### DISCUSSION

DR. WILE thought it was just the sort of an effect that could be obtained from the use of roentgen rays, although he did not think that was the cause of it in this case.

#### MULTIPLE SARCOMATOSIS. PRESENTED BY DR. ORMSBY

The patient was a man, aged 52. He had been shown at the November meeting of the Society. Since then new lesions had continued to develop more rapidly. Older ones were removed by treatments with radiotherapy. At present, the patient was bed-ridden, and had flat, nodular lesions over the entire body. Some were surrounded by a hemorrhagic areola. The patient was evidently nearing the end.

#### DISCUSSION

DR. SUTTON thought the result of the roentgen-ray treatments was wonderful. He said that as a rule, at the very best, one would not expect such a

patient to live for more than a few months, and this man was in far better condition than one would imagine he could be.

DR. PUSEY was much impressed by the evident improvement in the case.

#### GRANULOMA INGUINALE TROPICUM. PRESENTED BY DR. HARRIS

The patient was a man, aged 22, who presented a lesion in the groin and on the penis. There was a painless swelling in the left groin which bled very readily. The condition had been present for six or seven months. The lesions looked like granuloma inguinale but could possibly be syphilitic. The patient had been seen only recently, and the Wassermann test had not been reported on as yet.

#### DISCUSSION

DR. RAVOGLI said he rather frequently had seen cases of ulcers covered with vegetations in the inguinal region. He knew of many cases reported, especially by Italian medical officers who had occasion to observe cases among the Beduins in Tripoli, which were the same kind of ulcers with vegetations, and they had all been called tropical ulcer. In his service among the colored people such ulcers were often found. He did not think he would call them tropical ulcer, but thought they were only tertiary syphilitic ulcers, which had remained there for a long time, badly cleaned or cleaned not at all. He thought this maintained such an irritation of the ulcerated surface that the papillae proliferated and produced the peculiar vegetating surface. He thought a good therapeutic measure was to scrape the surface deeply with the curet, remove the whole mass and then dress the wound with iodoform gauze, and so far he had had good results. He had recently operated on a colored woman who had these peculiar vegetations which had nearly closed the vagina, and he had removed them, and now she was getting well. He examined these granulations to see if a peculiar micro-organism could be found, but he had never found anything and had come to the conclusion that they were nothing but tertiary ulcers of syphilitic origin, which took on the peculiar granulating form. He called them syphilitic vegetans.

DR. ORMSBY thought the ulcers were not syphilitic, but were due to some local infection. While many micro-organisms had been isolated from these cases, none had been proved specific.

DR. HAASE said he had seen two such cases in the past eighteen months. One had remained in the hospital for study for over five months, and he had examined repeatedly for an organism but failed to find anything. In both of the cases there was a pigmented patch which afterward broke down and became fungoid. He was satisfied that the lesions were not syphilitic, because these two negroes did not have syphilis. The lesions were scraped and cauterized without any results. The patients did not improve under antisymphilitic treatment and were transferred to the surgical service in which they were curetted and the skin graft attempted, but this was unsuccessful.

#### URTICARIA PIGMENTOSA (?). PRESENTED BY DR. ORMSBY

The patient, a woman aged 29, had suffered with the disorder for two years. She said that the lesions appeared suddenly, after taking a bath. They were generalized and symmetrical, and had not changed in appearance since their inception, nor had any disappeared. The lesions were papular, somewhat larger than a pinhead, yellowish-brown in color, and devoid of subjective symptoms. Friction induced little change. From time to time the color changed slightly, either red or brown becoming more prominent. An occasional attack of urticaria induced temporary itching. The histologic study revealed no mast cells.

#### DISCUSSION

DR. SUTTON said that until recently he had considered that only three kinds of urticaria existed—urticaria acuta, urticaria chronica (which might be either



an urticaria recurrens or an urticaria perstans), and the urticaria pigmentosa of Nettleship. Recently, however, he had encountered a case of pigmentary urticaria in a young girl in which the lesions were entirely free of mast cells, just as in the case shown by Dr. Ormsby. Consequently, he believed that we would have to extend the list to include one more variety—urticaria pigmentosa without mast cells.

DR. PUSEY thought that from the histologic picture this could not be called a typical case of urticaria pigmentosa, but the Englishmen had studied these cases and described cases like that of Dr. Ormsby which were clinically cases of urticaria pigmentosa but without mast cell infiltration. He agreed with Dr. Sutton that such cases were another group in this same class. He thought they showed the clinical manifestations of urticaria pigmentosa but they were of another type.

DR. SWEITZER offered the suggestion that this be called a case of urticaria with pigmentation instead of urticaria pigmentosa.

DR. ORMSBY thought it would be interesting if it were proved that mast cells, which were characteristic histologically of the ordinary infantile cases of urticaria pigmentosa, were absent in the adult.

#### KOILONYCHIA, CONGENITAL ALOPECIA, AND DEFORMED TEETH.

PRESENTED BY DR. ORMSBY

The patient was a boy, aged 14 years, well nourished in general, and intelligent. The hair was fine and scarce, presenting the appearance of monilethrix. No hairs of this type were present, however. The process appeared to be one of atrophy. There was some follicular keratosis. The nails were classical spoon nails, the concavity being sufficiently large to hold ten drops of water. The teeth were pegged and serrated.

#### DISCUSSION

DR. HEIDINGSFELD thought the case was of unusual interest in that it developed congenital anomalies of hair, teeth and nails. Most of the instances in the literature showed a relationship of these structures. He recalled an exception in his personal experience in which there was a complete congenital absence of all the finger and toe nails in a man, 65 to 70 years of age, in whom both the hair and teeth were abnormally well developed and well preserved.

DR. ORMSBY thought the interesting point in this case was the fact that this patient was the only member of the family showing changes in the hair, nails and teeth. In most of the recorded cases the disorder occurred in family groups.

#### ANGIOMA. PRESENTED BY DR. MACKEY

The patient was a man, who presented an angioma of the temple which had been present all his life. Nodules had developed during the last four years, and there were periodic attacks of profuse bleeding.

#### DISCUSSION

DR. WILE thought that it was probably an angiosarcoma developing from a large vascular nevus.

DR. STOKES had seen a case recently in a woman who had had such a lesion and had developed new papillomatous and pedunculated lesions from time to time. There had been nothing to suggest malignancy in his case.

DR. ORMSBY said that one of the lesions had been constricted by a string, and that the constriction might induce a malignant change.

DR. MCEWEN stated that he had only seen the case for a moment before bringing it to the clinic, and he had not noticed that the constriction and erosion at the base of the larger tumor was due to a ligature. The man had said that it had bled the previous night, saturating a large towel. He thought the lesion was undergoing malignant change in places.



DR. PUSEY said he had examined the case very carefully, and he was not inclined to believe it malignant; he had seen a good many cases of angioma in which these sessile tumors developed without any subsequent malignant history.

#### DERMATITIS HERPETIFORMIS; PSORIASIS. PRESENTED BY DR. HARRIS

The patient was a man, aged 27, who for four years had had attacks of dermatitis herpetiformis. During one of the attacks he developed a frank psoriasis. There was a history of a similar eruption some years before. The continued use of Fowler's solution produced an arsenical keratosis.

#### DERMATITIS HERPETIFORMIS. PRESENTED BY DR. McEWEN

The patient was a man, aged 39, who was first seen in Cook County Hospital in October, 1914, at which time he presented lesions on the lips and in the mouth. While in the hospital he developed vegetative lesions under the arms and about the genitalia. The Wassermann test was then negative, and the patient had never had a sore on the penis. In February, 1915, there was a recurrence of the lesions under the arms and about the genitalia which cleared up in two months. In February, 1916, there was a recurrence of the vegetating lesions all over the body, accompanied by a little fever. The Wassermann reaction was again negative at this time. There was another recurrence in October, 1916, with vegetating lesions of the larynx.

#### DISCUSSION

DR. ORMSBY thought the case was one of dermatitis herpetiformis with vegetations. He said there was a so-called benign type of pemphigus vegetans, most cases of which were dermatitis herpetiformis with vegetative lesions occurring in association. He believed the case belonged to that type.

DR. McEWEN said the man had suffered frightfully from the lesion in the mouth; he believed the suffering had been much more pronounced than was usually the case in dermatitis herpetiformis.

DR. PUSEY considered the case very interesting. He said there were great masses of vegetations about the mouth and the genitalia, and, in his experience, the cases in which there were mouth lesions had the worst prognosis.

#### ANGIOMA. PRESENTED BY DR. MACKEY

The patient was a 3-months-old girl baby, with a cavernous angioma involving the entire region of the left breast, with noticeable subcutaneous vascular dilatations radiating from the tumor. The patient was presented with the hope of suggestions as to treatment, without destruction of the future function of the mammary gland.

#### DISCUSSION

DR. MITCHELL thought that radium would be the proper treatment to employ.

DR. HAASE suggested the use of CO<sub>2</sub> snow unless one was fearful of destroying the nipple. If that did not prove effective, surgical intervention could be resorted to later, but he thought the whole thing could be destroyed by CO<sub>2</sub> snow.

DR. HEIDINGSFELD believed that one could get an excellent cosmetic result with carbon dioxid snow in this form of nevus. The nipple could be spared treatment for functional reasons and treated successfully with radium. Radium alone would also give a very successful and excellent cosmetic result.

DR. QUINN had seen several such cases treated with CO<sub>2</sub> snow and they had cleared up nicely.

DR. McEWEN said he did not think there was any way in which the lesion could be destroyed without destroying the breast. He was inclined to question whether it could be managed with CO<sub>2</sub> snow, and he believed that the use of

radium or purely surgical methods would be preferable. In any event, a radical cure would mean the complete destruction of the breast, and in a female child he considered this point one of great importance.

DR. RAVOGLI thought the use of caustics in such an extensive lesion, the use of radium or electrolysis would endanger the life of the child. He thought such extensive nevi were much like a dystrophy produced by hereditary syphilis. With this idea he had covered the surface with mercurial ointment and given small doses of potassium iodid, and in several cases he had had results which he had never expected.

#### TUMOR OF THE LOWER LIP. PRESENTED BY DR. STILLIANS

The patient was a man, aged 25, occupied as a student and born in Russia. For the past three years he had noticed a swelling of the lower lip which was painless and troublesome only on account of the deformity. About two months before presentation, carbon dioxid snow was applied for fifteen seconds to the lip, and two weeks before presentation, a second application was made. The projection at the center of the diffuse swelling had appeared since this last treatment.

The lower lip was the site of a soft, elastic, compressible, bluish tumor, somewhat to the left of the median line, increasing the lip to about three times its normal size. In the center of this tumor was a crusted projection about 1.5 cm. in diameter and 0.5 cm. in height, firmer than the main mass and not at all tender. On removal of the thin crust, a bleeding surface was left.

#### DISCUSSION

DR. LIEBERTHAL believed it to be a granuloma.

DR. PUSEY thought it might be a granuloma, or a chancre, or a CO<sub>2</sub> ulcer kept open by maceration and infection.

DR. HEIDINGSFELD thought it was a granuloma and agreed with Dr. Pusey as to the question of the initial lesion. He considered an epithelioma out of the question, and did not believe it was a sarcoma.

DR. STILLIANS said that the case came to him about two months ago with what looked like a cavernous angioma in the lower lip, which had been there for several years. He applied CO<sub>2</sub> snow and two weeks later the patient returned with the elevated lesion. He was suspicious of sarcoma.









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